# 1 INTRODUCTION TO ProDriver DC

ProDriverᴦ DC is a dashboard-mounted display (see Figure 1-1) that provides real time and summary information on vehicle and engine operation. Real time graphic displays, shown when the engine is running, provide driver feedback on idle and driving performance relative to fleet goals. ProDriver DC also has a Fuel Economy Incentive Status screen and a clock/calendar with battery backup. Engine alerts provide a descriptive message when the Check Engine Light (CEL) or Stop Engine Light (SEL) are illuminated.
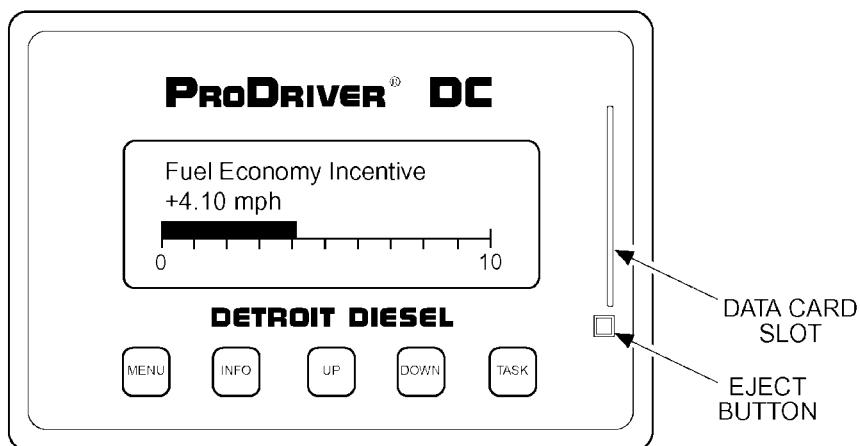
Figure 1-1   ProDriver DC with the Fuel Economy Incentive Screen
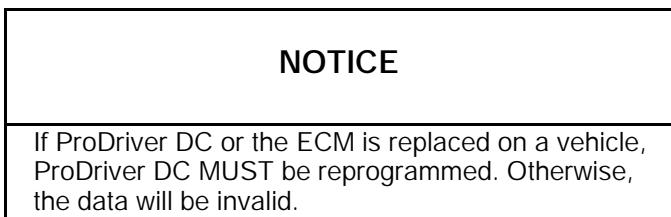
NOTICE

If ProDriver DC or the ECM is replaced on a vehicle, ProDriver DC MUST be reprogrammed. Otherwise, the data will be invalid.

The Data Card provides a convenient way to transport data to and from the vehicle. The Data Card can hold up to 16 megabytes of data. It can also be formatted to perform various functions through the Detroit Diesel Data Summariesт software. These functions are listed in Table 1-1.

Data Card is a generic term for all of the cards listed in Table 1--1.

Data Card	Functions
Driver Card	Records individual driver data
	Capacity: 10 different vehicles or trips plus two months
Extraction Card	Extracts stored vehicle data
	Capacity: 100 extractions
Configuration Card	Loads new ProDriver DC user settings
	Multiple vehicles
	Vehicle ID and odometer not affected
Reprogramming Card	Upgrade ProDriver DC features, as new software becomes available

Table 1--1   Data Card Functions

Data Cards are the SmartMediar product used in many digital cameras. The card and card readers are readily available from any Detroit Diesel distributor.

NOTE:
To ensure reliable performance, only the Data Cards and card readers supplied by Detroit Diesel should be used.

The ProDriver DC configuration (user settings) can be viewed and changed with Detroit Diesel Data Summaries. Configuration options that can be changed at any time are: Display Intensity, Language, and Units. Other setup parameters such as Vehicle Overspeed Limits can be changed, but only if the trip information in the ProDriver DC memory has first been extracted and cleared.

ProDriver DC has two access modes, Owner/Operator and Manager/Driver. The Owner/Operator mode does not require a password to change the setup. If the ProDriver DC access mode is set to Manager/Driver, a password is needed to enable changes to the ProDriver DC setup.

Programming ProDriver DC with a Configuration Card may be more convenient than entering the configuration manually with the buttons. When the card is inserted into ProDriver DC, the technician will be prompted through a few simple steps. Using the same Configuration Card on all ProDriver DC units in a fleet assures that each one has the same setup.

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Trip summary data may be reviewed on the ProDriver DC screen or extracted to a PC for later analysis. Extraction options include:

- Direct connection to a PC running Detroit Diesel Data Summaries software through a translator box

- Automated direct connection with the Detroit Diesel Remote Data Interface

- Wireless communications such as the @track (formaly Highway Master) cellular telephone service

- Extraction to a Driver Card or Extraction Card

- The Detroit Diesel Infrared Information System (IRISr), an infrared two-way communication between a vehicle and a PC

NOTES:

2 GETTING STARTED

During the initial setup of ProDriver DC or after reprogramming, the engine should be started and run for at least 30 seconds before clearing ProDriver DC's leg and trip data; refer to section 6, "Clearing Information." This will ensure that ProDriver DC is initialized to the proper values transmitted from the ECM and will zero out any data accumulated during delivery.

NOTICE

If ProDriver DC or the ECM is replaced on a vehicle, ProDriver DC MUST be reprogrammed. Otherwise, the data will be invalid.

2.1 BASIC BUTTON FUNCTIONS

Button names printed on the front of the display show their primary
function. Alternate button labels are displayed along the bottom of the
screen when special functions are needed. See Figure 2-1 for an example of
an alternate button function screen.
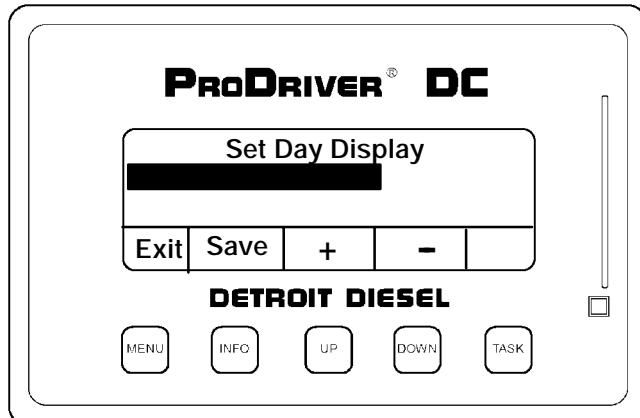
Figure 2-1   An Alternate Button Function Screen

- MENU displays the Main Menu or previous menu
  level. Press and hold to rapidly scroll back to the Main
  Menu. This button also functions as EXIT or
  NO when the alternate button label line appears.

- INFO allows you to select items the menu pointer
  ⟶ is pointing to. This button also functions as
  SAVE or YES when the alternate label line
  appears.

- UP moves the menu pointer ⟶ up one line.
  Press and hold to rapidly scroll up through the selected
  menu.

- DOWN will move the menu pointer ⟶ down one
  line. Press and hold to rapidly scroll down through the
  selected menu.

- UP and DOWN will also function as entry keys
  for numeric and alphanumeric values where the
  alternate functions apply.

– $\boxed{\text{TASK}}$ is user programmable and displays a user selected screen. The active mode (Main Menu, Idle, or Driving) determines what screens can be displayed. Selecting the desired screen for display and holding $\boxed{\text{TASK}}$ for five seconds programs $\boxed{\text{TASK}}$. After programming, the internal alarm will beep twice.

2.2 LANGUAGE

The three languages available in ProDriver are English, Spanish, and French. During a trip, the language used can be changed multiple times at any point without loss of memory (see Figure 2-2).

From the Main Menu:

⟶ English/Español/Français, $\boxed{\text{INFO}}$, ⟶ Desired Language (English/Español/Français), $\boxed{\text{INFO}}$.
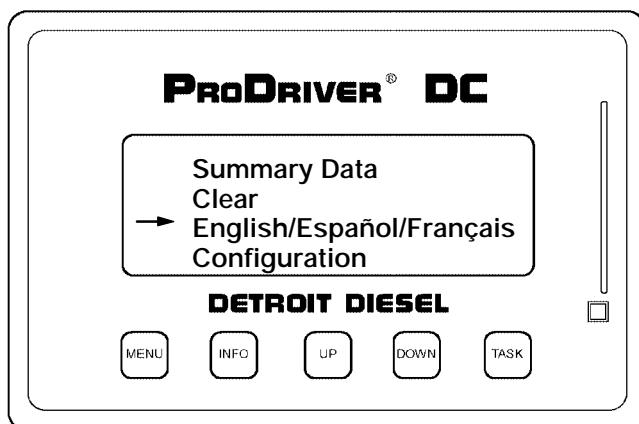

Figure 2-2   Main Menu

2.3   WAKEUP OPERATION

To wake up ProDriver DC, turn the ignition key ''ON'' but DO NOT start
the engine. You can also wake up ProDriver DC with the ignition key
''OFF'' by pressing MENU . When ProDriver DC is awake and the engine
is not running, ProDriver DC will turn itself off and return to the main menu
after 20 seconds without a button being pressed. ProDriver DC will
power-up displaying the ProDriver DC screens and Safety Precaution
screen (see Figure 2-3).
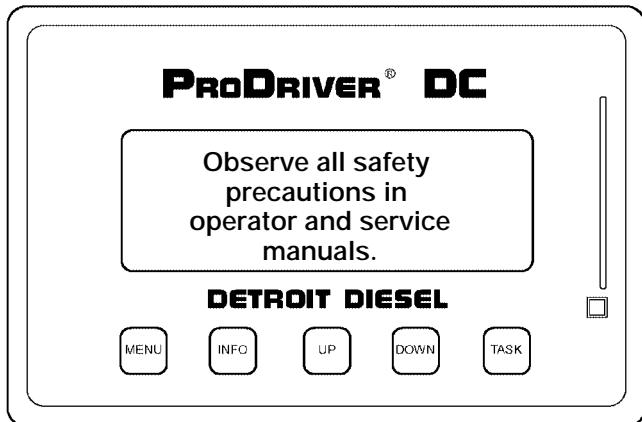
Figure 2-3   Safety Precaution Screen

If ProDriver DC is configured for prompted Driver ID, the Driver ID screen will be displayed if a valid Driver Card is not present. Refer to section 7.1.3 for further explanation of the Driver ID screen. After 30 seconds (unless a new driver ID is entered), the Main Menu is displayed (see Figure 2‑4).
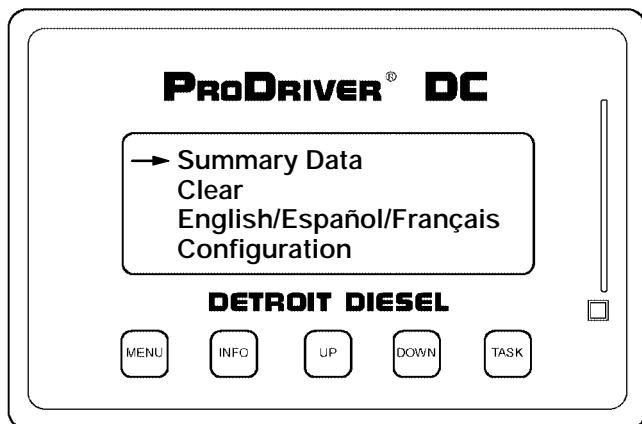

Figure 2‑4   Main Menu

2.4   DEFAULT CONFIGURATIONS AND LIMITS

Listed in Table 2-1 and Table 2-2 are the adjustable parameters within ProDriver DC, their factory defaults, and the page in this manual which describes in detail how to modify them. If the unit is not password protected (Owner/Operator mode) you may want to review and change the factory set points listed below. At a minimum we suggest that you personalize the ProDriver DC by entering a Vehicle ID, Driver ID, Odometer, and enable the Oil Change Monitor. If you are unsure of the desired value for a parameter, try using the factory defaults. You can always change the configuration at a later date.

Parameter	Default	User Value	Reference
Vehicle ID	Blank		section 7.3.3, page 98
Driver ID	Blank		section 7.1.3, page 72
Units	MPG		section 7.1.2, page 71
Limits			
Idle Time Limit	5 minutes		section 7.3.1.1, page 84
Overspeed Limits			
Speed A	66 mph		section 7.3.1.2, page 85
Speed B	71 mph		
OverRev	1800 rpm		
Hard Braking Limit	7.0 mph/sec		section 7.3.1.3, page 87
Values			
Odometer	0		section 7.3.2.1, page 90
Fleet Goals			
Fleet Fuel Economy Goal	6.0 mpg		section 7.3.2.2, page 91
Fleet Idle Goal	15%		section 7.3.2.2, page 93
Oil Change Monitor			section 7.3.2.3, page 95
Distance	0 Mi		section 7.3.2.3, page 97
Engine Hours	0		section 7.3.2.3, page 97
Fuel Consumed	0 Gal		section 7.3.2.3, page 97
Calendar Days	0 Days		section 7.3.2.3, page 97
Service Alert	0%		section 7.3.2.3, page 97

Table 2-1   ProDriver DC Parameters, 1 of 2

Parameter	Default	User Value	Reference
ProDriver Data			section 7.3.4, page 99
Alarm	OFF		section 7.3.4, page 100
Button Feedback	ON		section 7.3.4, page 100
Last Stop Incident	ON		section 7.3.4, page 100
Driver Card (Enable)	OFF		section 7.3.4, page 100
Speeding A (Enable)	ON		section 7.3.4, page 100
Speeding B (Enable)	ON		section 7.3.4, page 100
Over Rev (Enable)	ON		section 7.3.4, page 100
Prompt Driver ID	OFF		section 7.3.4, page 100
Access Mode			section 7.3.5, page 101
Access Mode	Owner/ Operator		section 7.3.5.1, page 102
Password	_ _ _ _ _ _		section 7.3.5.2, page 103
ID Entry Type	Numeric (0–9)		section 7.3.5.3, page 105
Display Intensity			section 7.1.1, page 70
Day Intensity	100		section 7.1.1, page 70
Night Intensity	25		section 7.1.1, page 70

Table 2--2   ProDriver DC Parameters, 2 of 2

NOTES:

3 DATA CARD

The Data Card provides a convenient way to transport data to and from the vehicle. The Data Card can hold up to 16 megabytes of data. The Data Card is a generic term for all of the cards. The Data Card can be formatted to perform various functions and is used as the following:

- Driver Card
- Configuration Card
- Reprogramming Card
- Extraction Card

NOTE:
All data cards are created with Detroit Diesel Data Summaries software.

3.1 INSERTING AND REMOVING THE DATA CARD

Insert the card with the DDC logo and gold reader chip facing the ProDriver screen. When the card is inserted correctly, the button below the card pops out. Press the button to remove the card. See Figure 3–1.
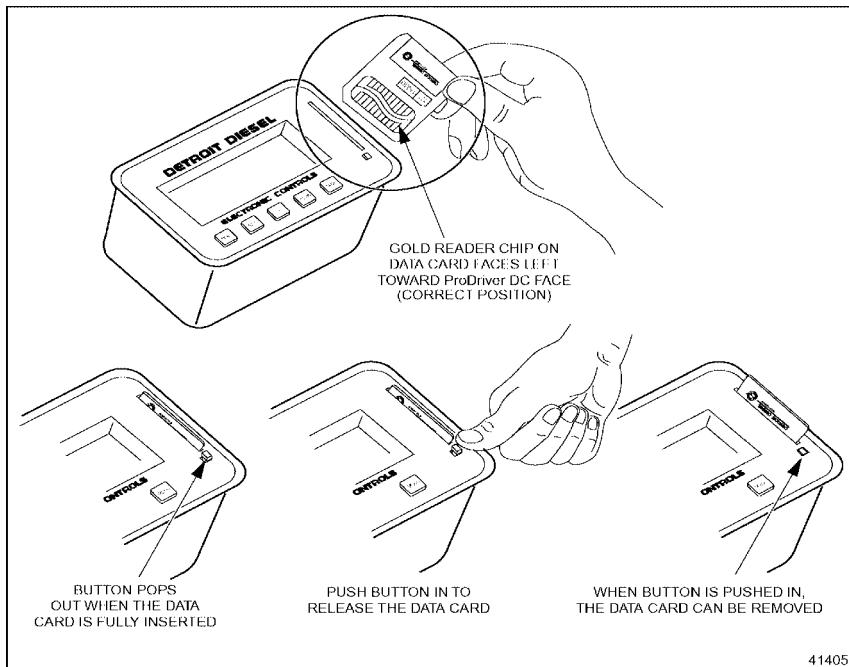
Figure 3-1   Inserting and Removing the Data Card

Upon detection of a data card, the following screen displays until the card
type is determined (see Figure 3-2).
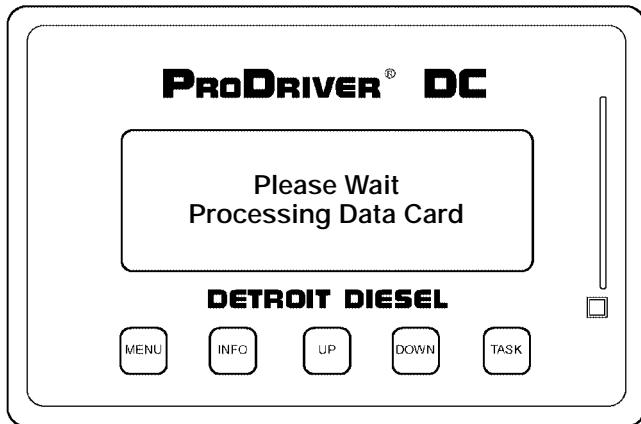
Figure 3-2   Processing Data Card Screen

Upon detection of any error in reading or writing the data card, the
following screen displays (see Figure 3-3).
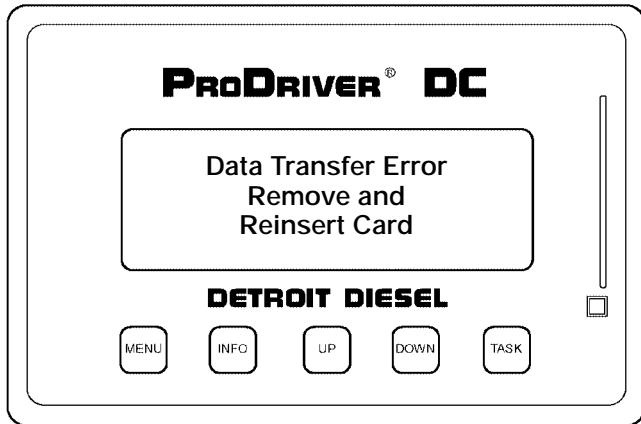

Figure 3-3   Data Transfer Error Screen

3.2 DRIVER CARD

The Driver Card is assigned to a specific driver. The card can hold the data from trips in ten different vehicles. The Driver Card collects the following information:

- – Driver Trip Data (time, distance, fuel economy, etc.)
- – Driver Trip Tables (time at RPM and speeds)
- – Engine Usage Data (time at idle, driving, and off)
- – Hard Brake Incidents (5)
- – Monthly Driver Trip Data (2)
- – Monthly Driver Trip Tables (2)

When the Driver card is inserted and recognized by ProDriver DC, the driver data stored on the card is transferred to the ProDriver DC memory.

The Driver Card contains a queue of the last ten driver trips. If the vehicle ID of the most recent driver trip on the card is the same as the vehicle ID of the current vehicle then the trip is continued. If the vehicle IDs are different, ProDriver DC starts a new driver trip. Upon detection of a valid Driver Card, the configuration/setup parameter "Driver Card Enable" is set to ON. The Driver Card setup parameter is permanently changed in the configuration.

3.2.1 Driver Card Ignition On

If the configuration/setup parameter "Driver Card Enable" is turned ON, the following screen appears when the ignition is turned ON (see Figure 3-4). If a Driver Card is not detected, an internal alarm activates every two seconds for 30 seconds.
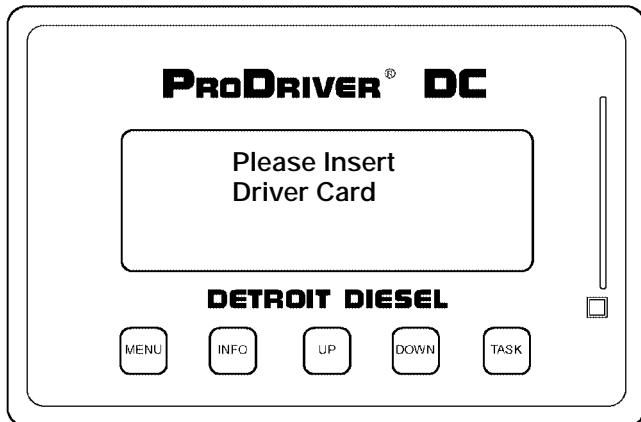

Figure 3-4   Insert Driver Card Screen

As the data read begins, the following screen displays first (see Figure 3-5)
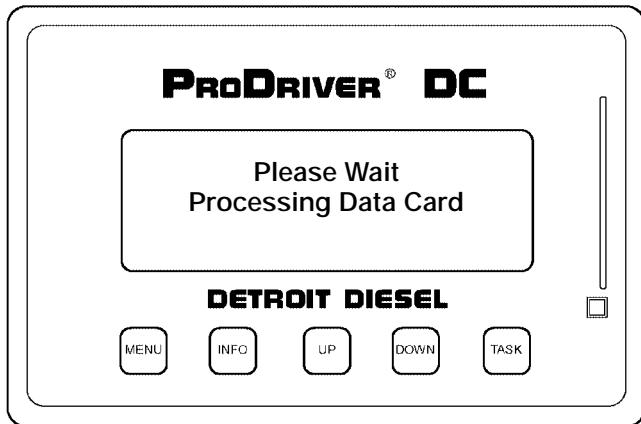


Figure 3-5   Processing Data Card Screen

If a card other than a Driver Card is inserted, the following screen displays
and the alarm will activate every two seconds until the card is removed (see
Figure 3-6).
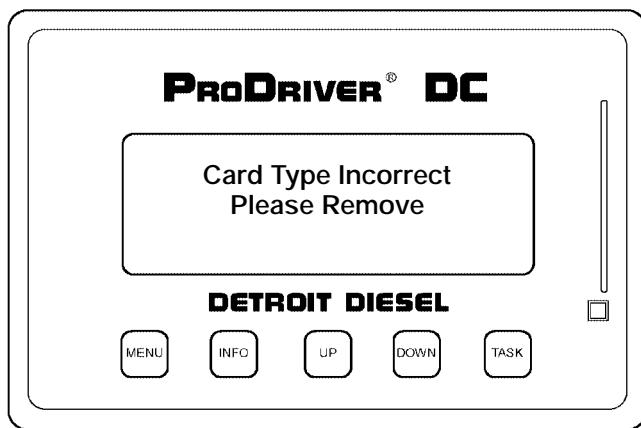
Figure 3-6   Incorrect Card Screen

During a data read from the Driver Card, the following screen displays (see
Figure 3-7).
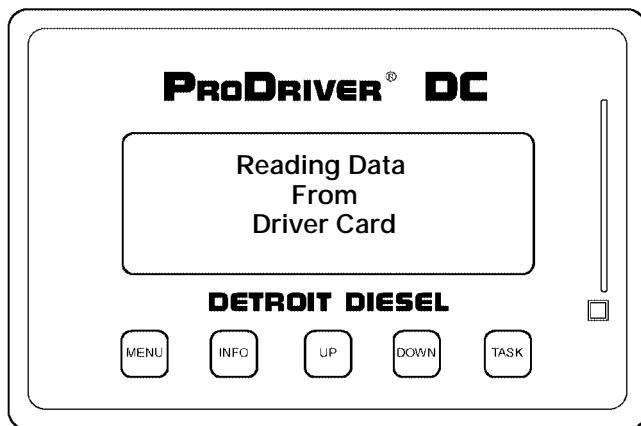
Figure 3-7   Reading Driver Card Screen

After the data is read, the following screen displays (see Figure 3-8).
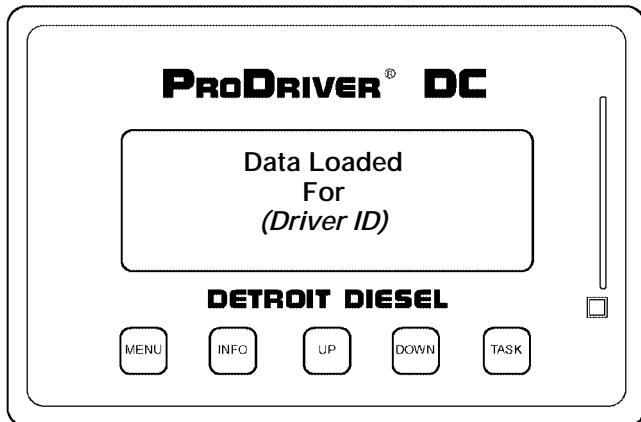
Figure 3-8   Reading Driver Card Screen

3.2.2 Driver Card Ignition Off

When the vehicle ignition is turned OFF, the new accumulated data is written back to the Driver Card and the following screen displays (see Figure 3-9). It takes approximately 25 seconds to write to the card.
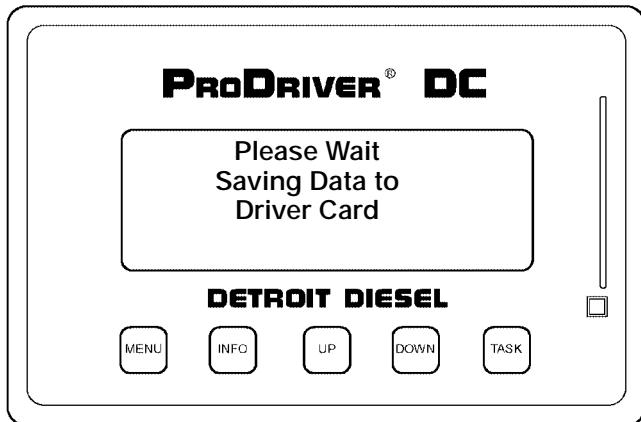
Figure 3-9   Saving Driver Card Data Screen

After the data has been correctly written to the Data Card, the following
screen displays (see Figure 3‑10) and the internal alarm activates every two
seconds for 30 seconds. The screen displays for a maximum of 30 seconds
or until the card is removed.
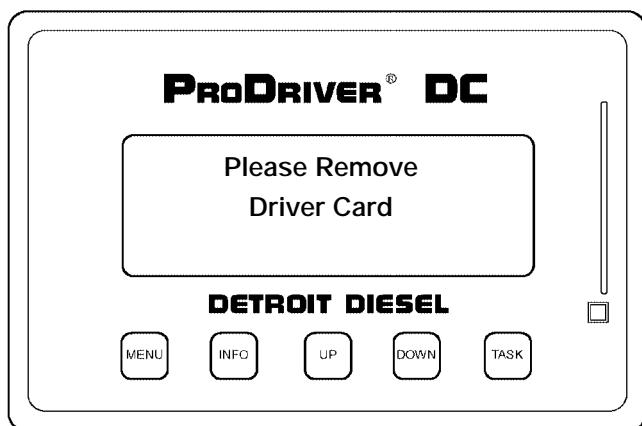
Figure 3‑10 Remove Driver Card Screen

If the Driver Card is removed prior to the ignition being turned OFF or
while data is being saved to the card, the following screen displays and the
internal alarm is activated (see Figure 3‑11).
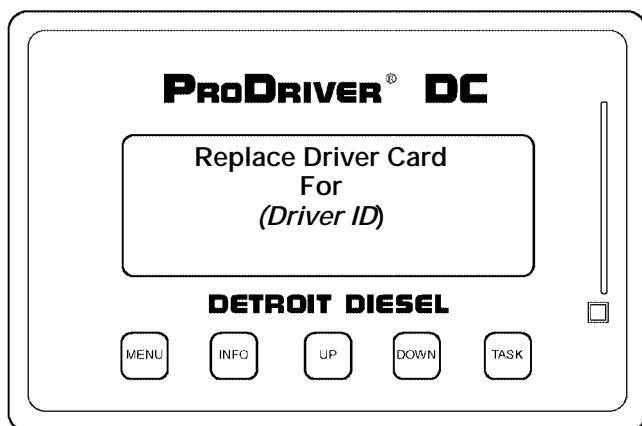
Figure 3‑11 Replace Driver Card Screen

After the Driver Card has been reinserted, the following screen displays if the ignition is ON (see Figure 3-12).
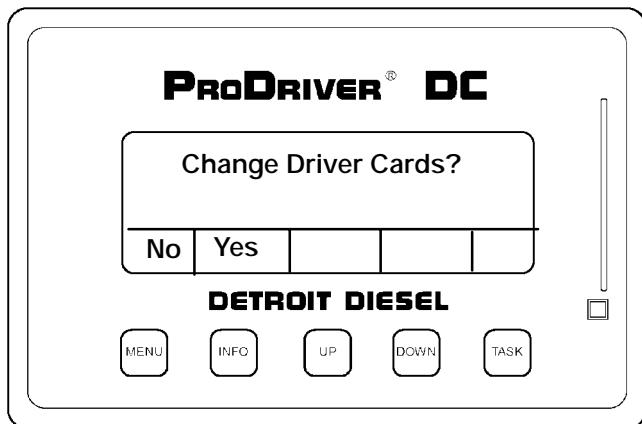
Figure 3-12 Change Driver Card Screen

Pressing [YES] allows the driver data to be written to the Data Card and then return to the previously displayed screen. Pressing [NO] will return to the previous screen without any additional action.

3.3   CONFIGURATION CARD

The Configuration Card allows the downloading of a Configuration page using a Data Card. The configuration parameters for Vehicle ID and Odometer cannot be altered by a Configuration Card download. These values must be entered using the buttons.

The ignition should be ON prior to inserting a Configuration Card. Upon detection of a Configuration Card, ProDriver DC displays the following screen (see Figure 3-13).

NOTE*:*
If ProDriver DC is configured for Driver Cards (refer to section 3.2) the "Insert Driver Card" screen (see Figure 3-4) will be displayed when the ignition is turned on. To use a Configuration Card in this situation, press any button, which will cancel the "Insert Driver Card" screen and allow use of the Configuration Card. After the configuration is complete, insert the Driver Card.

NOTE*:*
No action will be taken if the vehicle is in a drive state (vehicle speed is greater than 1.5 mph).
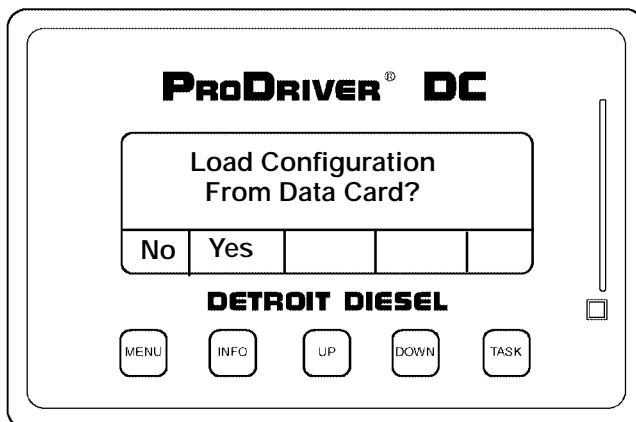
Figure 3-13 Load Configuration Screen

Press ⬚ NO ⬚ and the screen will display a message asking you to remove the Data Card (see Figure 3-14).
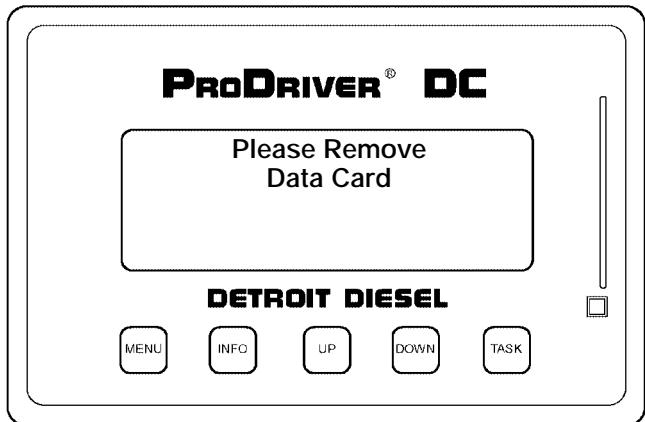
Figure 3-14 Remove Data Card Screen

Press ⬚ YES ⬚ to download the configuration page from the Data Card.

After a successful download of the configuration page, the following screen is displayed (see Figure 3-15).
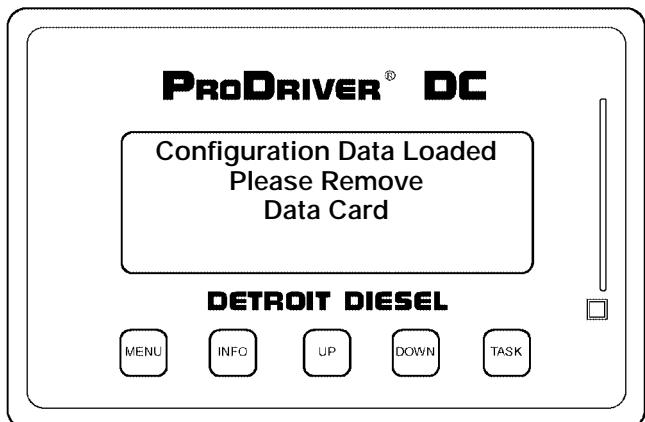
Figure 3-15 Configuration Data Loaded Screen

When the card is removed, ProDriver will return to the screen that was displayed prior to the detection of the Configuration Card.

3.4   REPROGRAMMING CARD

The Reprogramming Card allows the reprogramming of ProDriver DC. No action will be taken if the engine is running.

NOTE*:*
Extract the data before reprogramming or it will be lost.

The ignition must be ON before inserting the Reprogramming Card.

NOTE*:*
If ProDriver DC is configured for Driver Cards (refer to section 3.2) the "Insert Driver Card" screen (see Figure 3–4) will be displayed when the ignition is turned on. To use a Reprogramming Card in this situation, press any button, which will cancel the "Insert Driver Card" screen and allow use of the Reprogramming Card. The "Insert Driver Card" screen will appear as usual.

Insert the card and the following screen displays (see Figure 3–16).
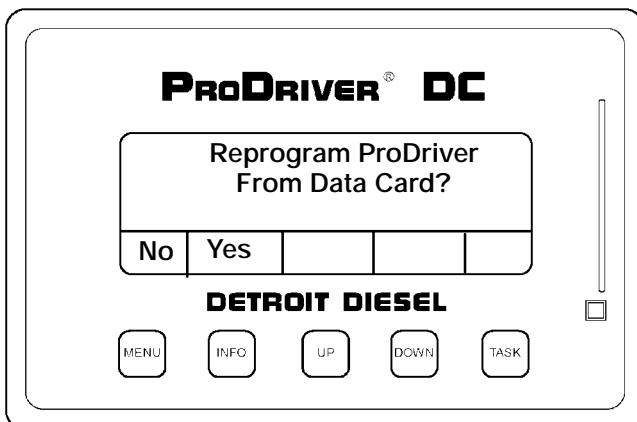
Figure 3–16   Reprogram ProDriver DC

Press ☐ NO ☐ and the screen will display a message asking you to remove the Data Card (see Figure 3–14).

Press ☐ YES ☐ to start the reprogramming process from the Data Card.

The reprogramming process starts by saving the configuration and service interval pages to the data card. Reprogramming takes approximately 2 1/2 minutes. The following screen displays while the data is being saved (see Figure 3–17).
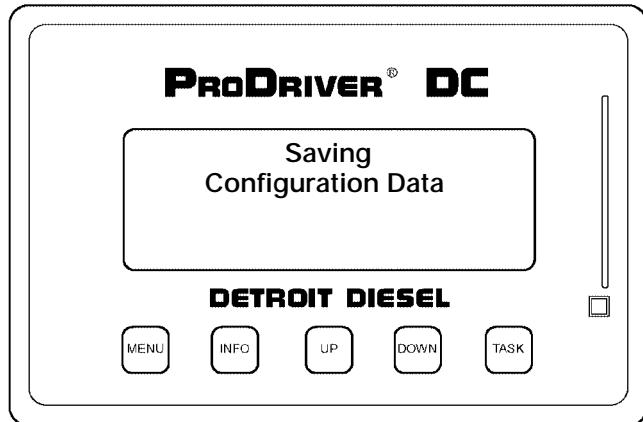
Figure 3-17 Saving Configuration Data Screen

After a successful reprogram, the previously saved configuration and service interval pages are restored. ProDriver DC shuts down and restarts. The EPA screen displays. The Loading Configuration Data screen displays while the configuration data is loading (see Figure 3-18).
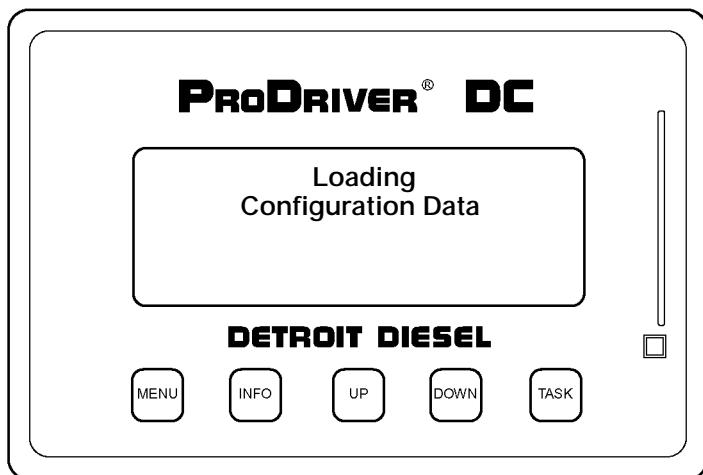
Figure 3-18 Loading Configuration Data Screen

After loading the configuration and service interval pages data, the message "Configuration Data Loaded" is displays (see Figure 3-19).

NOTE*:*
Do not remove card until the following screen displays (see Figure 3-19.
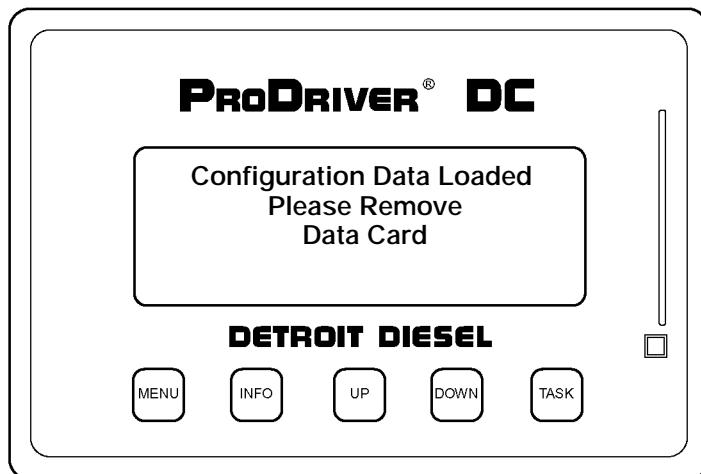
Figure 3-19 Configuration Data Loaded Screen

3.5   EXTRACTION CARD

The Extraction Card extracts vehicle data from ProDriver DC to the Data
Card. To use the Extraction Card, the ignition must be On with the engine
not running. No action will be taken if the engine is running.

NOTE:
If ProDriver DC is configured for Driver Cards (refer to section 3.2)
the "Insert Driver Card" screen (see Figure 3‑4) will be displayed
when the ignition is turned on. To use an Extractiong Card in this
situation, press any button, which will cancel the "Insert Driver Card"
screen and allow use of the Extraction Card. After the extraction is
complete, insert the Driver Card.

The Extraction Card will collect the following information:

- Vehicle Trip Data (time, distance, fuel economy, etc.)
- Vehicle Trip Tables (time at RPM and speeds)
- Hard Brake Incidents (5)
- Last Stop Incidents (1)
- Monthly Vehicle Trip Data (2)
- Monthly Vehicle Trip Tables (2)
- Service Interval Data
- Alert Data
- Extraction Audit Trail

One Extraction Card can hold up to 100 vehicle extractions before the data
must be loaded into a computer. Loading the data into a computer will clear
the data from the card so it can hold another 100 extractions.

Upon detection of the Extraction Card, the following screen displays (see Figure 3-20).
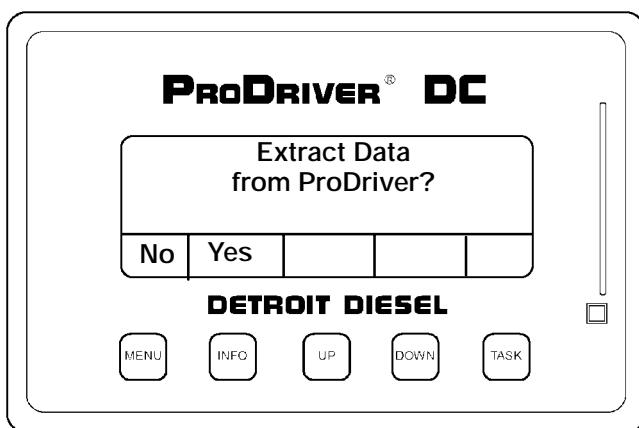
Figure 3-20 Extract Data Screen

If a Clear Extraction Card is detected, the following screen displays (see Figure 3-21).
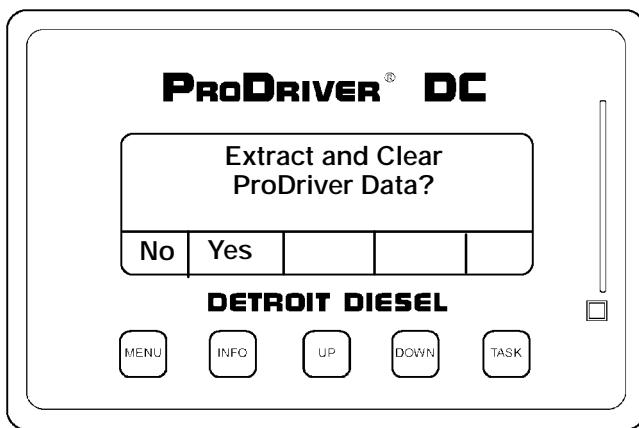
Figure 3-21 Extract and Clear Data Screen

Press [NO] and the screen will display a message asking you to remove the Data Card (see Figure 3-14).

Press [YES] to start the extraction process to the Data Card.

During the extraction process, the following screen displays (see Figure 3-22). The extraction takes approximately 15 seconds.
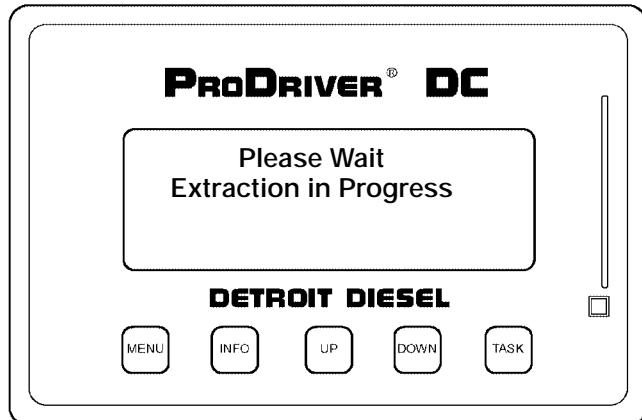
Figure 3-22 Extraction in Progress Screen

When the extraction has been successfully completed, the following screen displays (see Figure 3-23). The screen displays until the Extraction Card is removed.
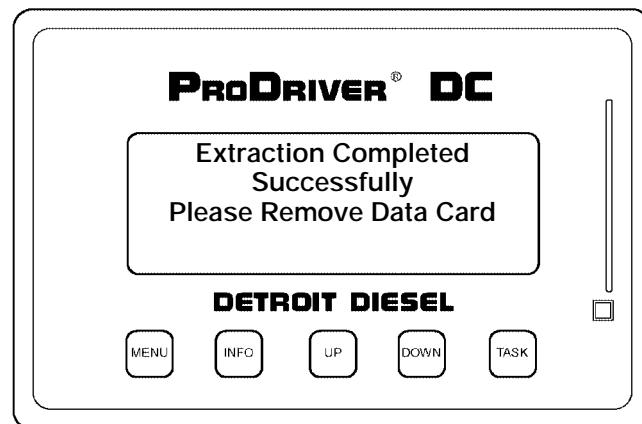
Figure 3-23 Extraction Complete Screen

If there is insufficient memory on the Data Card the following screen displays (see Figure 3-24).
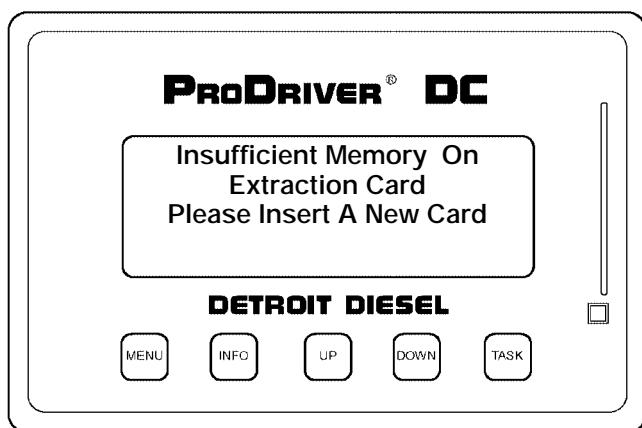
Figure 3-24 Insufficient Memory Screen

NOTES:

4 DRIVER FEATURES

ProDriver DC has many convenient features for the driver based on the mode of operation – either Idle Mode or Driving Mode.

4.1 IDLE MODE / ENGINE RUNNING

The Idle Time Screen is displayed by default when the engine is first started or when vehicle speed is less than 1.5 mph. Pressing INFO takes the driver from one screen to the next. The screens displayed in Idle Mode are:

- – Idle Time
- – Fuel Economy Incentive
- – Leg Information 1
- – Leg Information 2
- – Date/Time
- – Temporary Display Intensity Override

NOTE*:*
Pressing MENU while in Idle Mode will cause the Main Menu screen to display.

4.1.1 Idle Time Screen

The Idle Time Screen is displayed (see Figure 4-1) by default when the engine is first started or when the engine is running and the vehicle speed is less than 1.5 mph. Any operational warning or alert will override the Idle Time display.
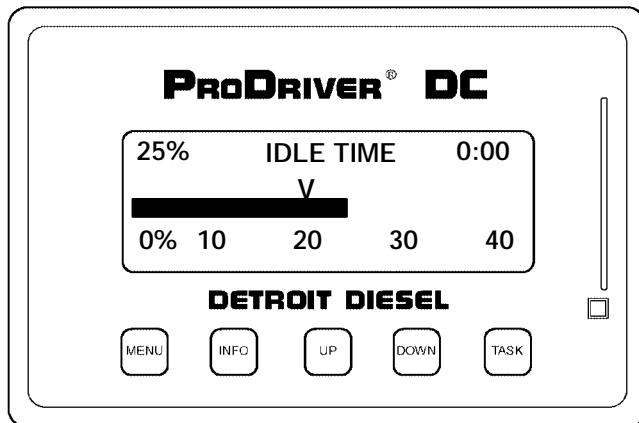
Figure 4-1   Idle Time Screen

The Idle Time screen provides idle information for the current trip. Idle time is defined as engine running time when the vehicle speed is less than 1.5 mph, inclusive of Variable Speed Governor (VSG) operation. The goal pointer (V) is positioned to indicate the Fleet Idle Goal value. The Idle Time screen is reset when the trip data is cleared.

4.1.2 Fuel Economy Incentive Screen

The Fuel Economy Incentive Screen (see Figure 4-2) displays the current speed limit adjustment from the DDEC ECM.
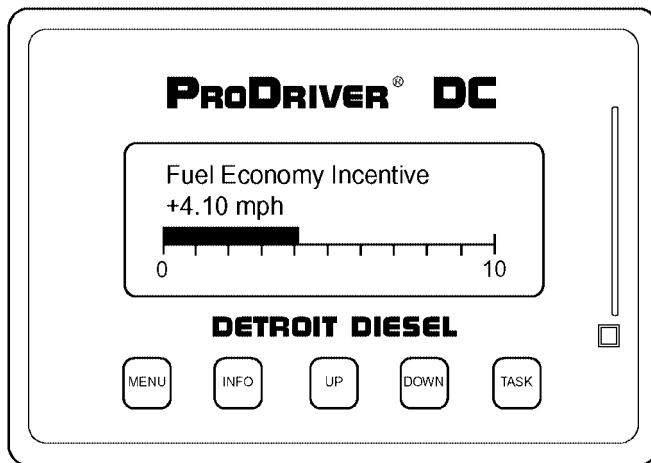
Figure 4-2   Fuel Economy Incentive Screen

The mph value on the second line is the speed limit adjustment value currently being applied to vehicle operation. The third line is a graphical representation of the current speed limit adjustment value as a percentage of the maximum mph delta adjustment value that could be earned under the Fuel Economy Incentive program. The fourth line is a graph legend with the right most value being the maximum mph delta adjustment value.

NOTE*:*
This screen is only available for DDEC III/IV applications that have the Fuel Economy Incentive feature enabled.

Continue to press INFO to scroll to the next screen.

4.1.3 Leg Information Screens

The first Leg Information Screen displays distance, fuel usage, fuel economy, and idle percentage information for the current leg (see Figure 4-3).
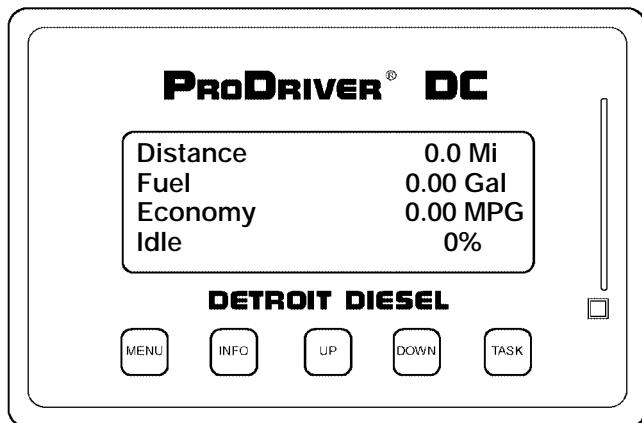
Figure 4-3   Leg Information Screen 1

Press [INFO] to display the Second Leg Information screen. The second Leg Information Screen displays total leg time, drive time, cruise percentage, and average vehicle speed information for the current leg (see Figure 4-4).
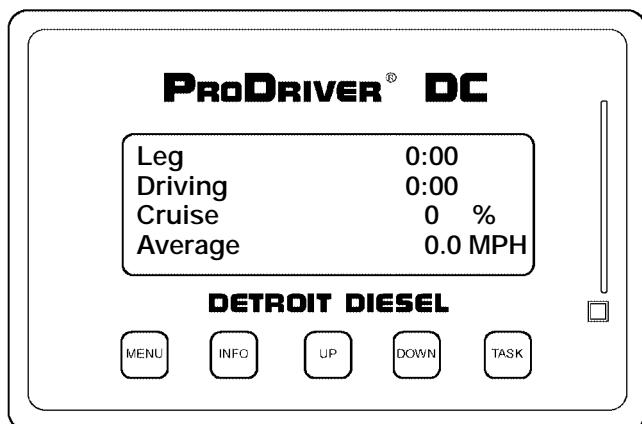
Figure 4-4   Leg Information Screen 2

Continue to press [INFO] to scroll to the next screen.

4.1.4 Date/Time Screen

The Date/Time screen displays the current fleet date and time (see
Figure 4-5). The time zone is Eastern Standard Time (EST).
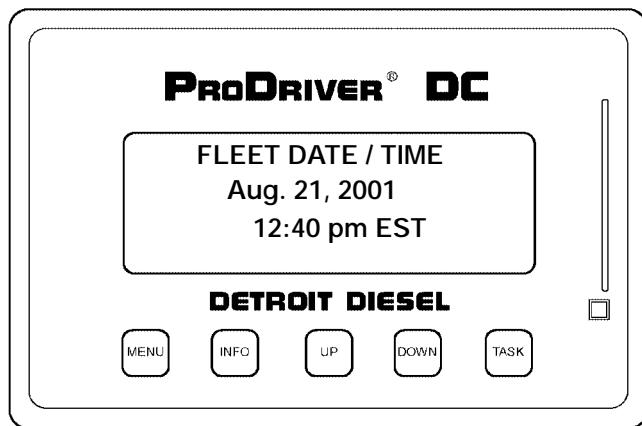
Figure 4-5   Date/Time Screen

NOTE:
This time can only be adjusted using Detroit Diesel Data Summaries.
ProDriver DC will always display EST, the default setting.

4.1.5 Temporary Display Intensity Override

Press ⎡ UP ⎤ or ⎡DOWN⎤ for the following screen to display (see
Figure 4-6). Press ⎡ EXIT ⎤ to return. The normal setting returns the next
time the engine is started or the lights are flashed.
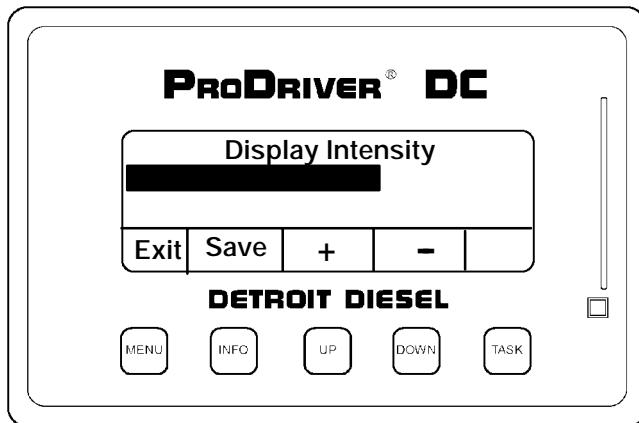
Figure 4-6   Temporary Display Intensity Override Screen

4.2 DRIVING MODE

Driver information screens are displayed when the engine is running and the vehicle is moving (engine speed greater than 64 rpm, vehicle speed greater than 1.5 mph). Pressing [INFO] takes the driver from one screen to the next.

The screens displayed in Driving Mode are:

- – Fuel Economy
- – Fuel Economy Incentive
- – Leg Information 1
- – Leg Information 2
- – Date/Time

NOTE:
The [MENU] button has no effect while in Driving Mode.

4.2.1 Fuel Economy Screen

ProDriver DC displays the Fuel Economy screen automatically anytime the vehicle is in motion (see Figure 4-7). This screen provides fuel economy information for the current trip.
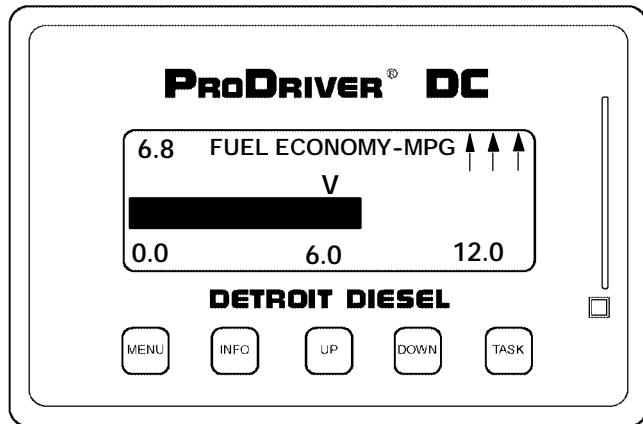
Figure 4-7   Fuel Economy Screen

This screen contains an auto ranging scale with a horizontal bar graph showing the vehicle's trip fuel economy. The numerical value is displayed in the top left corner. The vertical arrows on the right side of the screen display instantaneous fuel economy. The upward pointing arrows and the number of them (up to 5) indicate improving fuel economy, in comparison to the current leg. The downward pointing arrows and the number of them (up to 5) indicate a decline in fuel economy for the current leg. The number of arrows displayed is based on the differences between the current trip average fuel economy and the instantaneous fuel economy as listed in Table 4-1.

Number of Arrows	Difference Between Average and Instantaneous Fuel Economy Rate
0	< 1.00 MPG
1	1.00 – 2.00 MPG
2	2.00 – 2.75 MPG
3	2.75 – 3.25 MPG
4	3.25 – 3.75 MPG
5	> 3.75 MPG

Table 4-1   Fuel Economy Arrow Values

The Fuel Economy screen may be switched to display the Fuel Economy Incentive screen while the vehicle is in motion. Continue to press INFO to scroll to the next screen.

4.2.2 Fuel Economy Incentive Screen

The Fuel Economy Incentive Screen (see Figure 4-8) displays the current speed limit adjustment from the DDEC ECM.
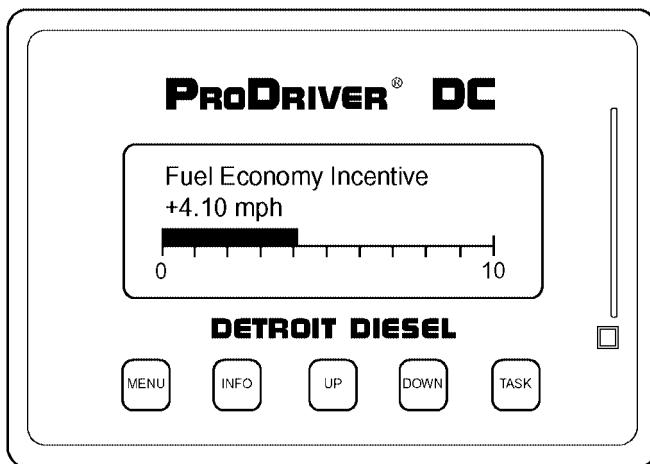

Figure 4-8   Fuel Economy Incentive Screen

The mph value on the second line is the speed limit adjustment value currently being applied to vehicle operation. The third line is a graphical representation of the current speed limit adjustment value as a percentage of the maximum mph delta adjustment value that could be earned under the Fuel Economy Incentive program. The fourth line is a graph legend with the right most value being the maximum mph delta adjustment value.

NOTE:
This screen is only available for DDEC III/IV applications that have the Fuel Economy Incentive feature enabled.

Continue to press INFO to scroll to the next screen.

4.2.3 Leg Information Screens

The first Leg Information Screen displays distance, fuel usage, fuel economy, and idle percentage information for the current leg (see Figure 4-9).
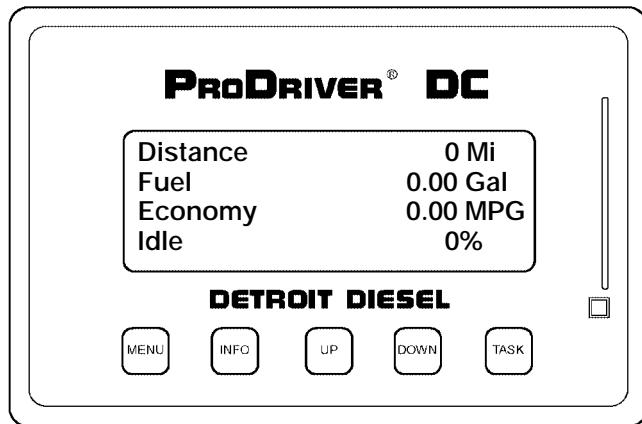

Figure 4-9   Leg Information Screen 1

Press INFO to display the Second Leg Information screen. The second Leg Information Screen displays total leg time. drive time, cruise percentage, and average vehicle speed information for the current leg (see Figure 4-10).
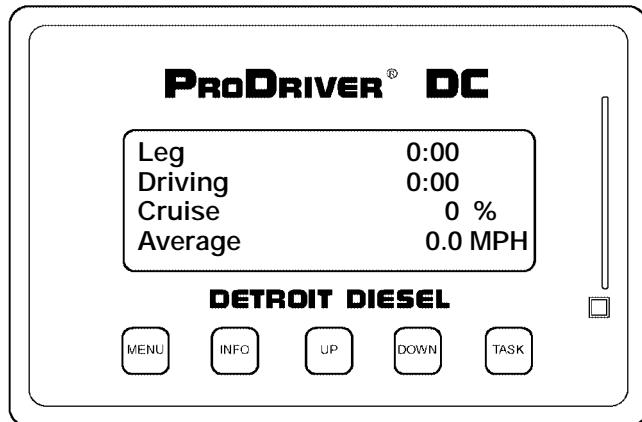

Figure 4-10 Leg Information Screen 2

Continue to press INFO to scroll to the next screen.

4.2.4 Date/Time Screen

The Date/Time screen displays the current fleet date and time (see Figure 4-11).
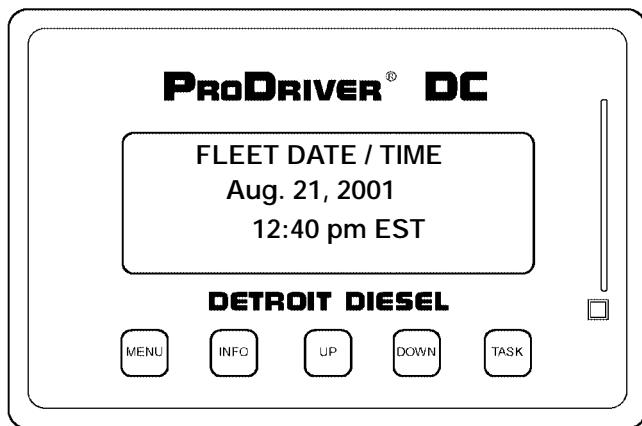
Figure 4-11 Date/Time Screen

NOTE:
This time can only be adjusted using Detroit Diesel Data Summaries. The factory default setting is Eastern Standard Time (EST).

4.3 ALERT SCREENS

Alert screens appear when various conditions exist. The screens can be cleared by pressing any button. If the condition ceases, the screen will clear automatically. The alert screens are:

- Cruise Set Speed

- Oil Monitor Alert

- Vehicle Overspeed

- Over Rev Limit

- Excessive Idle Time

- Hard Braking Incident

- Engine Alerts

4.3.1 Cruise Set Speed Screen

ProDriver DC will display the Cruise Control Set Speed (see Figure 4-12) momentarily when the Cruise Set or Resume switch is activated. The display screen shows the set speed for five seconds, or the display can be returned immediately to the prior screen by pressing any button.
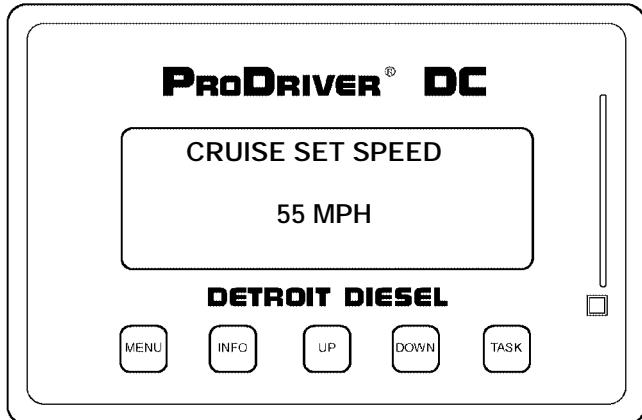
Figure 4-12 Cruise Set Speed Screen

4.3.2 Oil Monitor Alert Screen

The Oil Monitor is a user configurable option that alerts the driver when a scheduled oil change is pending. The measurement interval is set using one of the following: the Distance, Engine Hours, Fuel Consumed, Days, or Service Alert Interval screens (refer to section 7.3.2.3 "Oil Change Monitor").

When the oil change monitor reaches the threshold set by the selected measurement interval and service alert interval, the Oil Monitor Alert screen is displayed (see Figure 4‑13).
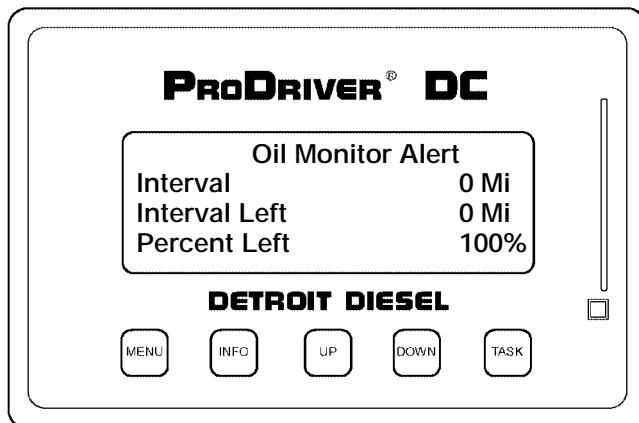
Figure 4‑13 Oil Monitor Alert Screen

The alert is acknowledged by pressing any button.

Selecting the Change Oil option in the Clear menu resets the Oil Monitor. The odometer reading is recorded as part of the trip data when the Oil Monitor is reset.

This screen will be displayed everytime ProDriver DC wakes up if an oil change is required.

4.3.3 Vehicle Overspeed Screen

Vehicle speed is compared to the set up parameters Overspeed A Limit (default – 66 mph) and Overspeed B Limit (default – 71 mph). When vehicle speed exceeds either setup parameter an overspeed condition is immediately declared. The Vehicle Overspeed Warning screen is displayed (see Figure 4-14) and the alarm sounds if it is enabled.
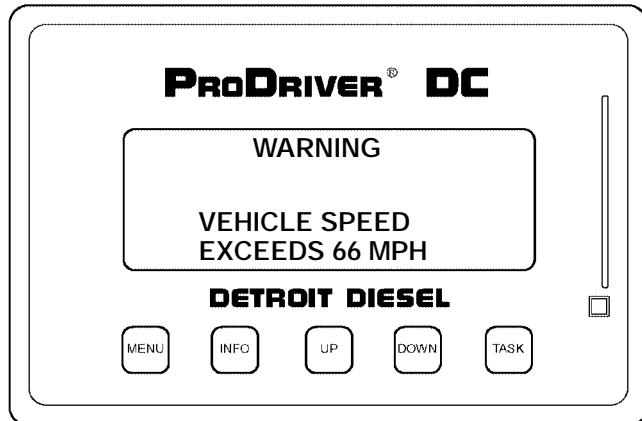
Figure 4-14 Vehicle Overspeed Warning Screen

This feature will be disabled if the vehicle overspeed limits are turned off (refer to section 7.3.4, "Change ProDriver Data").

NOTE*:*
The Overspeed Warning is acknowledged by pressing any button. This action will clear the warning and disable the alarm.

4.3.4 Over Rev Limit Warning Screen

The engine rpm is compared to the setup parameter Over Rev Limit (default: 1800 RPM). When an engine overspeed condition occurs the Over Rev Limit screen is displayed and the alarm sounds if it is enabled.
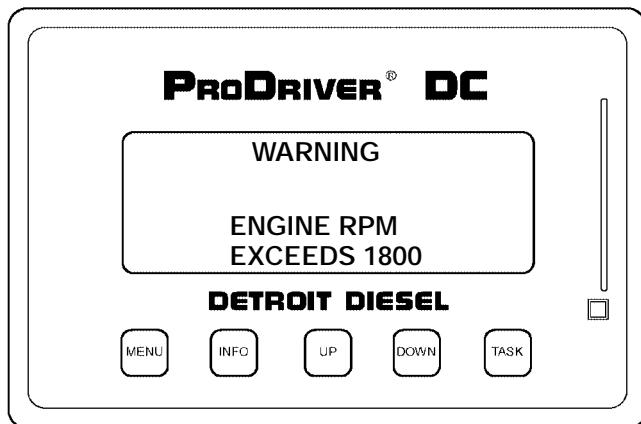
Figure 4-15 Over Rev Limit Screen

NOTE:
The Over Rev Limit Warning is acknowledged by pressing any button. This action will clear the warning and disable the alarm.

4.3.5 Excessive Idle Time Screen

If continuous idle time exceeds the Idle Time Limit setpoint (default:
5 minutes), the Excessive Idle Time screen displays and the alarm sounds if
it is enabled (see Figure 4-16).
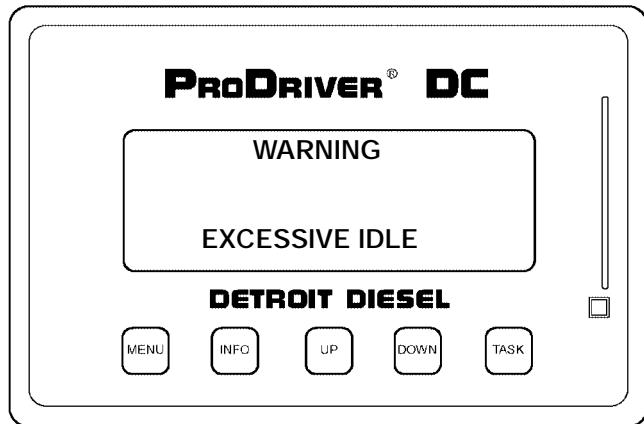
Figure 4-16 Excessive Idle Time Screen

NOTE*:*
The Excessive Idle Warning is acknowledged by pressing any
button. This action will clear the warning and disable the alarm.

NOTE*:*
This feature is not related to and does not affect the Idle Shutdown
Timer.

4.3.6 Hard Braking Incident Screen

ProDriver DC has the ability to detect Hard Braking incidents (quick stops/rapid deceleration). This is accomplished by measuring the deceleration of the vehicle. ProDriver DC allows you to select the rate of deceleration which triggers a hard braking record. This rate is measured in vehicle speed change per second. The default deceleration rate is 7 MPH/S. Any deceleration greater than 7 MPH/S will cause ProDriver DC to record a Hard Braking Incident. The hard brake incident record consists of 60 seconds of data prior to the hard brake incident and 15 seconds of data after the incident. A maximum of 5 records can be stored per trip. Hard Braking Incident records may only be reviewed in the printed report. Setting the Hard Braking Limit to zero (0) will disable the Hard Braking detection feature.

The Hard Braking Incident warning (see Figure 4-17) will be displayed for five seconds when a Hard Braking Incident is detected.

Figure 4-17 Hard Braking Incident Screen

The total number of hard brake incidents is reported in the Trip Summary screen.

4.3.7 Engine Alerts

ProDriver DC will display descriptive alert messages when the Check Engine or Stop Engine lamps are illuminated. With a DDEC III or DDEC IV engine, ProDriver DC will also inform the driver of the engine response to a Stop Engine alert, i.e. Warning, Rampdown, or Shutdown. Alert messages may be cleared from the screen by pressing any button. If the condition ceases, the screen will clear automatically.

Up to five Check Engine and up to five Stop Engine records will be stored with the Trip Summary. If more than five alerts are received, only the five most recent records of each type will be saved (see Figure 4--18).
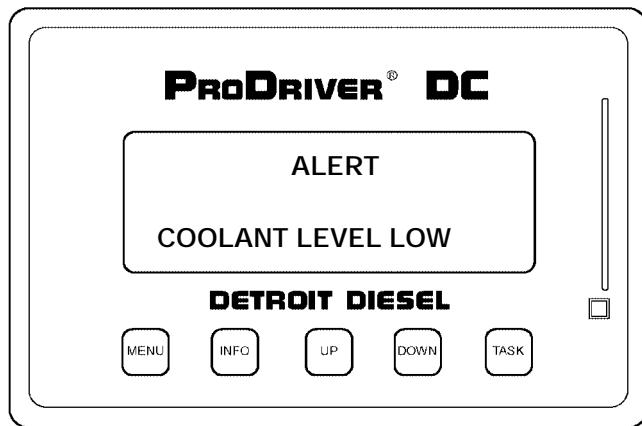
Figure 4--18 Alert Screen

The current reading of the out--of--specification parameter which is causing a stop engine alert will be displayed on the alert shutdown screen as shown below (see Figure 4--19).
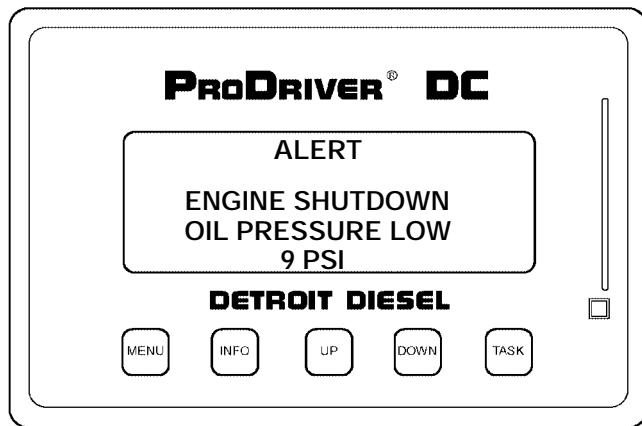
Figure 4--19 Alert Shutdown Screen

NOTE*:*
The Alert Warnings are acknowledged by pressing any button. This action will clear the warning and disable the alarm.

5 SUMMARY DATA

The Main Menu (Figure 5-1) will be displayed after initial power-up, if the engine is not started. The Main Menu can also be viewed anytime the vehicle is stationary by pressing MENU . To rapidly scroll up through the pages until the Main Menu is obtained, press and hold MENU .
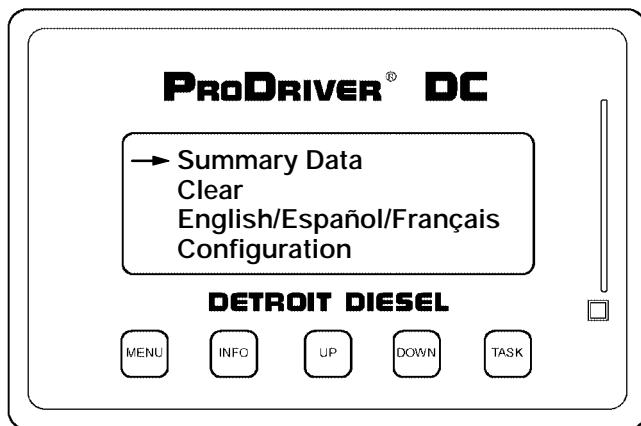
Figure 5-1   Main Menu

See Figure 5-2 for a menu map of Summary Data.
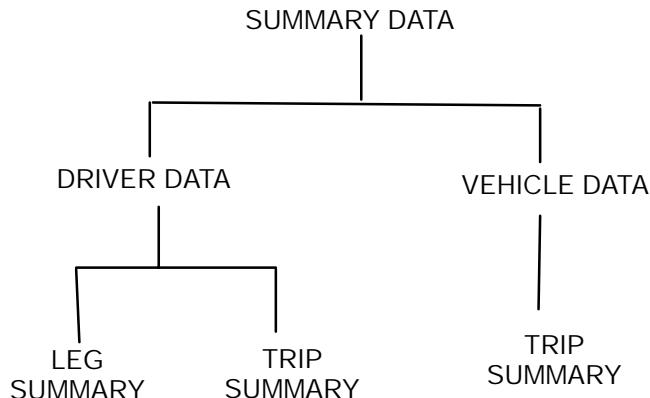
Figure 5-2   Summary Data Menu Map

5.1   SUMMARY DATA

The Summary Data Menu allows for the display of driver and vehicle summary data.

5.1.1   Vehicle Data

The Vehicle Data Menu allows for the display of vehicle Trip Summary data.

From the Main Menu:

    ⟶ Summary Data, INFO .

    ⟶ Vehicle Data, INFO (see Figure 5--3).
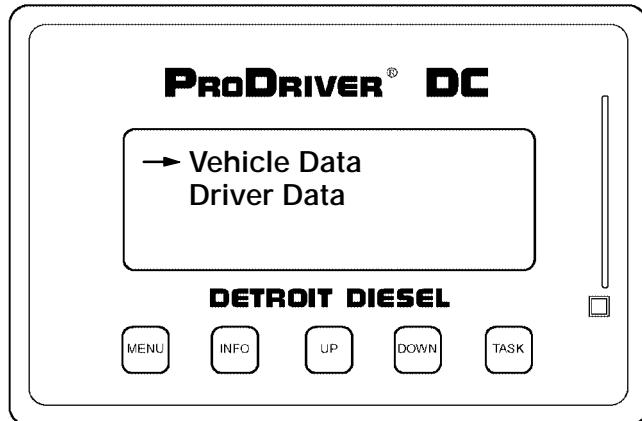
Figure 5--3   Vehicle and Driver Data Screen

⟶ Trip Summary, INFO (see Figure 5‑4).
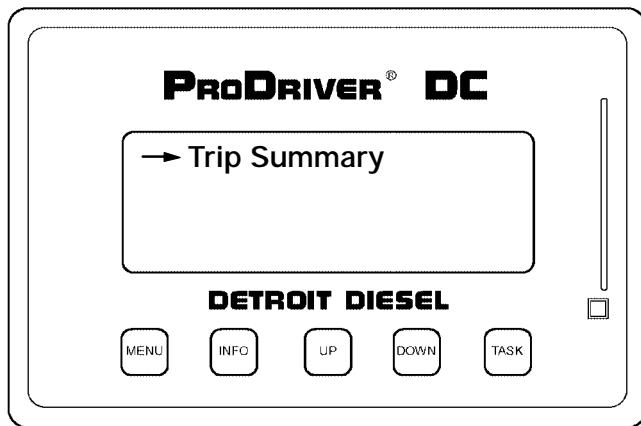
Figure 5‑4   Trip Summary Menu

5.1.1.1 Trip Summary

There are sixteen basic screens (pages) of information available to view in Trip Summary. Optional screens are appended to the Trip Summary if the oil monitor is enabled and if stop or check engine codes have been logged in the ECM.

Once the first page of information has been accessed by selecting Trip Summary (see Figure 5‑4), you can scroll through the pages by pressing INFO , UP , or DOWN . Press MENU to exit. The sixteen screens (pages) and the information included are shown in Figure 5‑5, Figure 5‑6, Figure 5‑7, and Figure 5‑8.

```
Veh ID        0123456789
Drv ID        0123456789
Odometer         184029    Mi
Trip                0.0    Mi
```

Page 1

```
TRIP            42:18
Fuel           218.00    Gal
Economy          5.66    MPG
Average          40.5    MPH
```

Page 2

```
DRIVE           72%      30:27
Distance       1234.0    Mi
Fuel            188.40   Gal
Economy           6.55   MPG
```

Page 3

```
CRUISE          70%      21:18
Distance       1058.0    Mi
Fuel            156.70   Gal
Economy           6.75   MPG
```

Page 4

Figure 5-5   Trip Summary, Pages 1 - 4

```
TOP GEAR          75%    22:45
Distance          1137.0 Mi
Fuel              167.20 Gal
Economy             6.80 MPG
```

Page 5

```
TOP GEAR - 1       5%    01:31
Distance           76.0 Mi
Fuel               11.90 Gal
Economy             6.40  MPG
```

Page 6

```
SPD LMTING     1%           00:18
Distance              23.0 Mi
Fuel                  3.48 Gal
Economy               6.60 MPG
```

Page 7

```
IDLE              25%    11:51
Fuel                29.60  Gal
VSG (PTO)         0%      0:00
Fuel                0.00  Gal
```

Page 8

Figure 5-6   Trip Summary, Pages 5 - 8

```
┌─────────────────────────────────┐
│  STOP IDLE      7%      02:45    │
│  Fuel           8.4    Gal       │
│                                  │
│                                  │
└─────────────────────────────────┘
```

Page 9

```
┌─────────────────────────────────┐
│         Optimized Idle           │
│  Active                 0:00     │
│  Run                    0:00     │
│  Est. Savings           0 Gal    │
└─────────────────────────────────┘
```

Page 10

```
┌─────────────────────────────────┐
│  Speed>66      3%      1:05       │
│  Speed>71      1%      0:30       │
│  Coasting      0%      0:00       │
│  RPM>1900      1%      0:28       │
└─────────────────────────────────┘
```

Page 11

```
┌─────────────────────────────────┐
│  Highest Speed        72 MPH     │
│  Highest RPM          1975       │
│  Avg Drive Load       65 %       │
│                                  │
└─────────────────────────────────┘
```

Page 12

Figure 5-7   Trip Summary, Pages 9 - 12

```
J1587 Timeouts            0
Date          00/00/00   00:00
Eng Hr                    0
Duration             0:00:00
```

Page 13

```
Power Interrupts          0
Date          00/00/00   00:00
Eng Hr                    0
Duration               0:00
```

Page 14

```
          Occurrence Count
Hard Braking              0
Alerts                    0
Brake Applications        0
```

Page 15

```
          Occurrence Count
Speeding A                2
Speeding B                1
Over Rev                  1
```

Page 16

Figure 5-8   Trip Summary, Pages 13 – 16

Optional Screens

There are three optional screens that can be displayed under Trip Summary.

The first optional screen displays Oil Change Monitor data: interval, interval left, and percent left.

```
         Oil Change Monitor
Interval                   650 Mi
Interval Left              650 Mi
Percent Left               100%
```

If the interval is exceeded, the Interval Left value will be displayed as a negative number. However, the displayed Percent Left value will never be less than zero.

The second optional screen displays the Stop Engine code data: description, date/time, and duration.

```
            Stop Engine
          Oil Pressure Low
Date                02/01/01 12:33
Duration                   0:00:20
```

One screen is displayed for each Stop Engine code that is recorded by ProDriver DC. Only the five most recent codes will be displayed.

The third optional screen displays the Check Engine code data: description, date/time, and duration.

```
           Check Engine
         Boost Press Circ Low
Date                00/00/00 00:00
Duration                   0:00:00
```

One screen is displayed for each Check Engine code that is recorded by ProDriver DC. Only the five most recent codes will be displayed.

Non-DDEC ECMs

The following Engine Code Data screen is displayed for non--DDEC ECMs. The engine code data displayed is PID/FMI code, date/time, and duration.

```
              Stop Engine
         PID/SID:  100    FMI:  1
    Date                  00/00/00   00:00
    Duration                       0:00:00

```

One screen is displayed for each check and stop engine code recorded by ProDriver DC.

5.1.2 Driver Data

The Driver Data Menu allows for the display of driver leg and trip summary data with the review of driver logs.

From the Main Menu:

⟶ Summary Data, INFO ,

⟶ Driver Data, INFO (see Figure 5--9) .
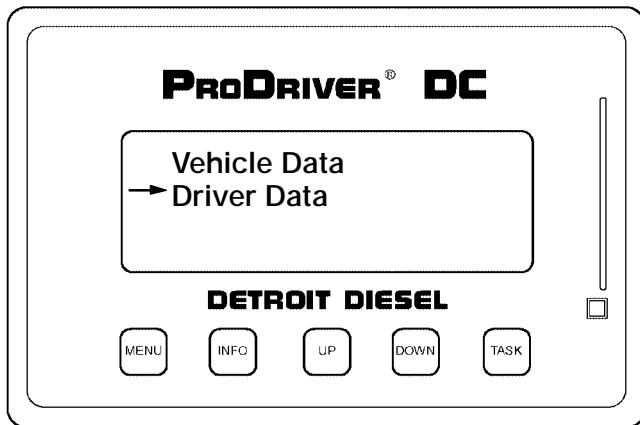
Figure 5-9   Vehicle and Driver Data Screen

⟶ Leg Summary, INFO or Trip Summary, INFO (see Figure 5--10).
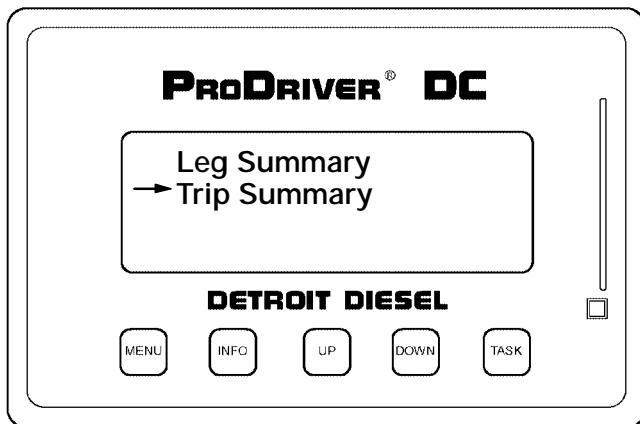
Figure 5-10 Driver Leg and Trip Summary Screen

5.1.2.1 Driver Leg Summary

The Driver Leg Summary consists of two screens (pages) displaying the leg time, distance, fuel used, fuel economy, average vehicle speed, percent of leg in cruise and cruise time values (see Figure 5-11). Values are accumulated for each leg. Once the first page of information has been accessed by selecting Driver Leg Summary, the user can alternately display the two pages by pressing INFO , UP , or DOWN . Press MENU to exit.

```
LEG              7:15
Distance      379.1  Mi
Fuel          48.25  Gal
Economy        7.86  MPG
```
Page 1

```
Leg Avg            52.3 MPH
Cruise       79%     5:45
```
Page 2
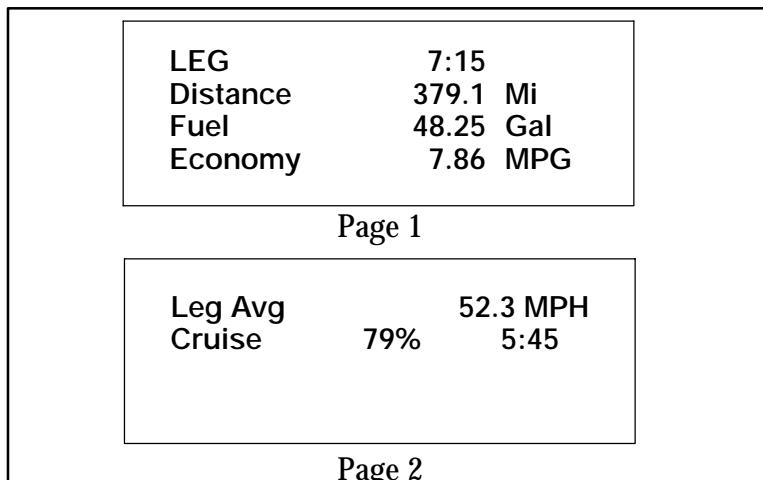
Figure 5-11 Two Pages of the Leg Summary

5.1.2.2 Driver Trip Summary

There are sixteen basic screens (pages) of information available to view in Driver Trip Summary. Once the first page of information has been accessed by selecting Trip Summary (see Figure 5-10), you can scroll through the pages by pressing INFO , UP , or DOWN . Press MENU to exit. The sixteen screens (pages) and the information included are shown in Figure 5-12, Figure 5-13, Figure 5-14, and Figure 5-15.

If the Driver Card is present, the information on the card will be displayed. Refer to section 3.2, "Driver Card," for more information.

```
Veh ID        0123456789
Drv ID        0123456789
Odometer        184029    Mi
Trip            1234.0    Mi
```

Page 1

```
TRIP             42:18
Fuel            218.00    Gal
Economy           5.66    MPG
Average           40.5    MPH
```

Page 2

```
DRIVE            72%     30:27
Distance        1234.0   Mi
Fuel            1884.0   Gal
Economy            6.55  MPG
```

Page 3

```
CRUISE           70%     21:18
Distance        1058.0   Mi
Fuel            156.70   Gal
Economy            6.75  MPG
```

Page 4

Figure 5-12 Trip Summary, Pages 1 - 4

```
TOP GEAR          75%    22:45
Distance         1137.0  Mi
Fuel             167.20  Gal
Economy            6.80  MPG
```

Page 5

```
TOP GEAR - 1       5%    01:31
Distance          76.0   Mi
Fuel              11.90  Gal
Economy            6.40  MPG
```

Page 6

```
SPD LMTING     1%         00:18
Distance             23.0 Mi
Fuel                 3.48 Gal
Economy              6.60 MPG
```

Page 7

```
IDLE             25%    11:51
Fuel              29.60  Gal
VSG (PTO)        0%      0:00
Fuel              0.00   Gal
```

Page 8

Figure 5-13 Trip Summary, Pages 5 - 8

```
┌──────────────────────────────────────┐
│   STOP IDLE        7%      02:45       │
│   Fuel             8.4     Gal         │
│                                        │
│                                        │
└──────────────────────────────────────┘
              Page 9
```

```
┌──────────────────────────────────────┐
│            Optimized Idle              │
│   Active                  0:00         │
│   Run                     0:00         │
│   Est. Savings            0 Gal        │
└──────────────────────────────────────┘
              Page 10
```

```
┌──────────────────────────────────────┐
│   Speed>66        3%        1:05       │
│   Speed>71        1%        0:30       │
│   Coasting        0%        0:00       │
│   RPM>1900        1%        0:28       │
└──────────────────────────────────────┘
              Page 11
```

```
┌──────────────────────────────────────┐
│   Highest Speed           72 MPH       │
│   Highest RPM             1975         │
│   Avg Drive Load          65 %         │
│                                        │
└──────────────────────────────────────┘
              Page 12
```

Figure 5-14 Trip Summary, Pages 9 - 12

```
J1587 Timeouts              0
Date          00/00/00   00:00
Eng Hr                      0
Duration             0:00:00
```

Page 13

```
Power Interrupts            0
Date          00/00/00   00:00
Eng Hr                      0
Duration               0:00
```

Page 14

```
           Occurrence Count
Hard Braking                0
Alerts                      0
Brake Applications          0
```

Page 15

```
           Occurrence Count
Speeding A                  2
Speeding B                  1
Over Rev                    1
```

Page 16

Figure 5-15 Trip Summary, Pages 13 - 16

NOTES:

6 CLEARING INFORMATION

The Clear Menu allows the leg data, trip data, oil change monitor and gear data to be cleared or reset.

```
                              CLEAR
                                │
       ┌──────────────┬─────────┴─────────┬──────────────┐
       │              │                   │              │
    CLEAR          CLEAR               CLEAR            OIL
     LEG            TRIP               GEARS          CHANGE
```
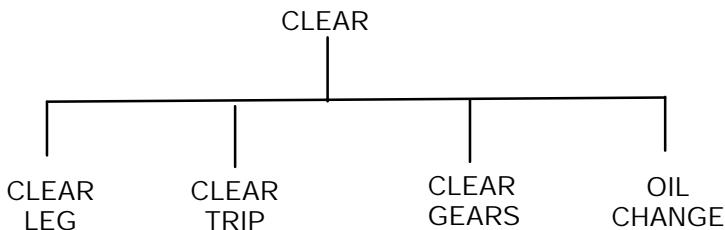
Figure 6-1   Clear Menu Map

6.1 CLEARING LEG SUMMARY

A driver may clear the stored memory of a ProDriver DC leg as often and as many times as desired during a trip. However, only information from the current leg is stored and available for display. Clearing leg information does not erase any trip information or oil monitor data stored in the ProDriver DC memory. Trip data is extracted; leg data is never extracted.

From the Main Menu: ⟶ Clear, INFO , ⟶ Clear Leg, INFO , Clear Leg?, YES .

The Main Menu will automatically be displayed after pressing YES .

6.2 CLEARING VEHICLE TRIP SUMMARY

Clearing the Vehicle Trip Summary from the ProDriver DC memory results in the loss of all trip information. It does not affect Hard Braking Incidents, the Odometer reading, Vehicle ID, Driver ID, Leg Summary Data, or the Oil Change Interval Monitor. ProDriver DC has two different access modes. The Owner/Operator mode does not require a password to clear the Trip Summary. The Manager/Driver mode will require that a

password be entered in order to clear the Trip Summary. Refer to section 7.3.5 for details on changing access modes and passwords.

6.2.1 Clearing Trip Summary in the Owner/Operator Mode

The following instructions work for clearing trip information in the Owner / Operator mode.

From the Main Menu:

⟶ Clear, INFO , ⟶ Clear Vehicle Trip, INFO , Clear Trip?, YES .

The Main Menu will automatically be displayed after pressing YES .

6.2.2 Clearing Trip Summary in the Manager/Driver Mode

The following instructions work for clearing trip information in the Manager/Driver mode.

From the Main Menu:

⟶ Clear, INFO , ⟶ Clear Vehicle Trip, INFO , YES .

Enter your Password:

Press 0-9 ↑ to increment the selected digit.

Press → to select the next digit to the right.

Press OK to enter and exit.

Press EXIT to exit from the password entry screen. Read message ''Trip Cleared.''

The Main Menu will automatically be displayed after pressing YES .

If you enter the password incorrectly, ProDriver DC will ask again, ''Clear Trip?'' Press YES . Enter the password correctly and proceed. Press EXIT to exit and MENU to return to the Main Menu.

6.3 RESETTING THE OIL CHANGE MONITOR

An alert is generated by the Oil Change Monitor when the Oil Change Interval has been exceeded. ProDriver DC will display an Alert screen if

this feature has been enabled. This Alert screen will notify the driver at the time the interval is reached and will repeatedly notify the driver on every engine start-up of the need to change the engine oil.

To reset the alert when an Oil Change has been performed, use the following steps.

From the Main Menu:

⟶ Clear, INFO , ⟶ Oil Change, INFO , Oil Changed?, YES .

The Main Menu will automatically be displayed after pressing YES .

6.4   CLEARING GEARS

ProDriver DC learns and stores the top gear ratio and top gear -1 ratio for the vehicle in order to determine Time, Fuel Used, and Fuel Economy for the top two gears. If a ProDriver DC is installed on a different vehicle or if the final drive ratio or tire size of the vehicle is changed, the top gear ratio stored in memory must be cleared. Clearing the top gear ratio does not erase trip information stored in the ProDriver DC memory. When Access Mode is set to Manager/Driver, the correct password must be entered before the gear ratios may be cleared.

To clear the Top Gear Ratio use the following steps.

From the Main Menu: ⟶ Clear, INFO , ⟶ Clear Gears, INFO , Clear Gears?, YES .

The Main Menu will automatically be displayed after pressing YES .

The Trip Summary should also be cleared at the same time so the Gear Ratio data is correct.

NOTES:

7 CONFIGURING ProDriver DC

See Figure 7-1 for a Configuration menu map.
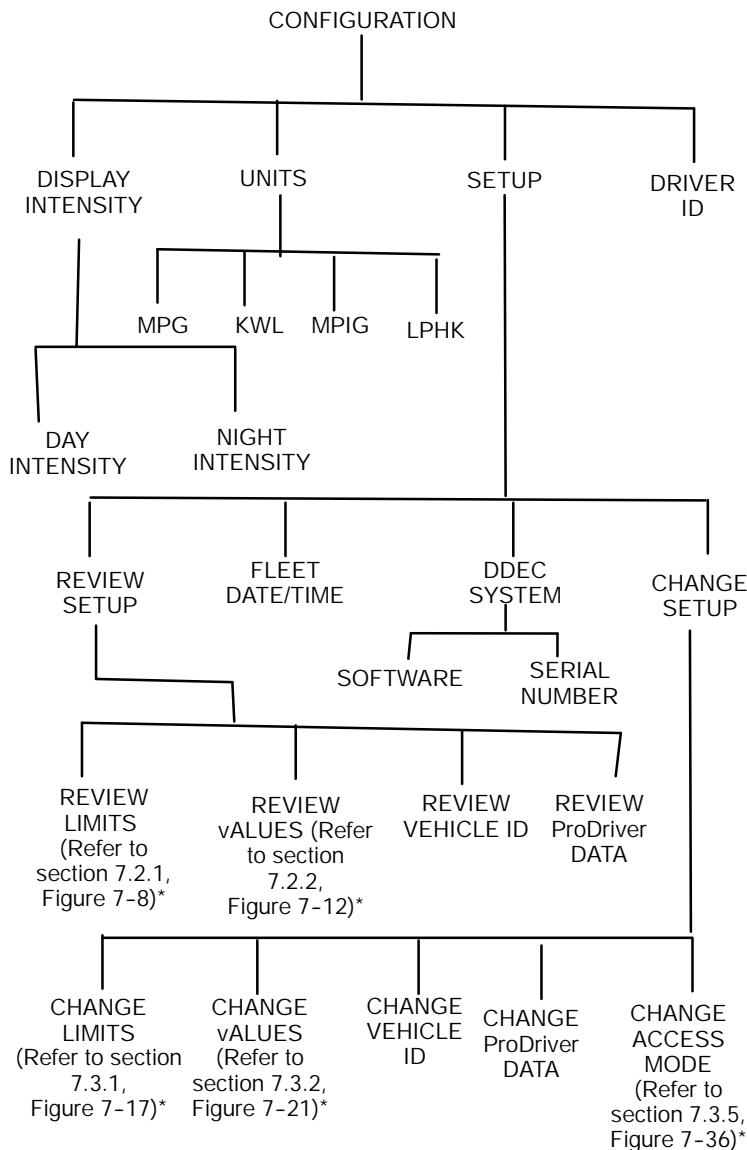
* FURTHER MENU MAPPING

Figure 7-1   Configuration Menu Map

ProDriver DC receives operational data transmitted by DDEC and other electronically controlled engines on the SAE J1708 diagnostic data link. This information is processed, recorded and displayed according to user configurable options. All configuration options are found under the Configuration option in the Main Menu.

From the Main Menu: $\longrightarrow$ Configuration, $\boxed{\text{INFO}}$.

The Configuration Select menu has two screens (see Figure 7-2 and Figure 7-3).

NOTE*:*
The down arrow indicates that there is more data on another screen.
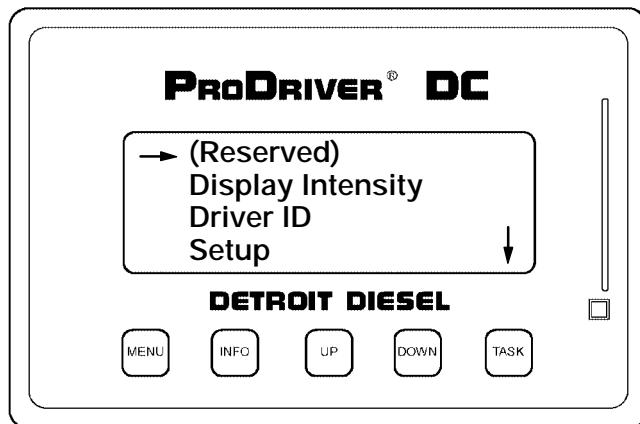
Figure 7-2   Configuration Select Menu - Screen 1
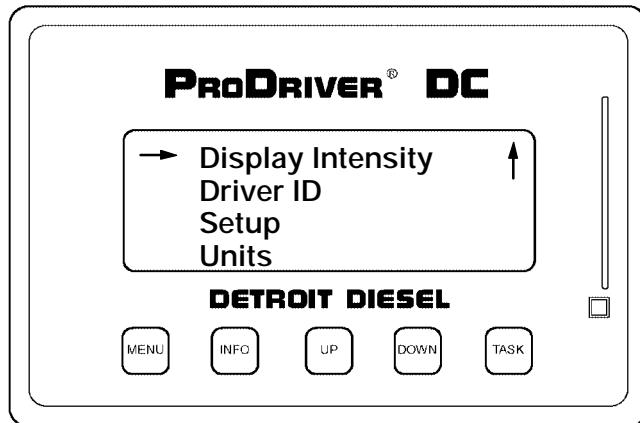
Figure 7-3   Configuration Select Menu - Screen 2

7.1 USER CONFIGURATION

The options, Display Intensity, Units, and Driver ID may be changed at any time by the user without affecting the information collected and stored by ProDriver DC.

NOTE*:*
Changes to the ProDriver DC configuration may only be made if the trip information in the ProDriver DC memory has been cleared and the engine is not running. To clear Leg and Trip Summaries, refer to sections 6.1 and 6.2.

ProDriver DC has two access modes: Owner/Operator and Manager/Driver. The Owner/Operator mode does not require a password to change Setup. If the ProDriver DC access mode is set to Manager/Driver, ProDriver DC requires the user to enter a password in order to enter the Change Setup menu.

Setup may be reviewed without clearing trip information by selecting ''Review Setup" instead of ''Change Setup" in the operating instruction sequences. Review Setup also allows the setup to be viewed without entering the password when the Manager/Driver access mode is used.

7.1.1 Display Intensity

Display intensity may be set by the user. ProDriver DC is connected to the vehicle's wiring at installation. This allows ProDriver DC to determine when the driver is using the vehicle lights and adjust the display intensity based on settings in memory. A temporary override feature is also available. If the driver manually overrides the display intensity, the normal setting returns the next time the engine is started or the lights are flashed.

From the Main Menu: ⟶ Configuration, ⟦ INFO ⟧, ⟶ Display Intensity, ⟦ INFO ⟧, ⟶ Day Intensity, ⟦ INFO ⟧ (see Figure 7–4).
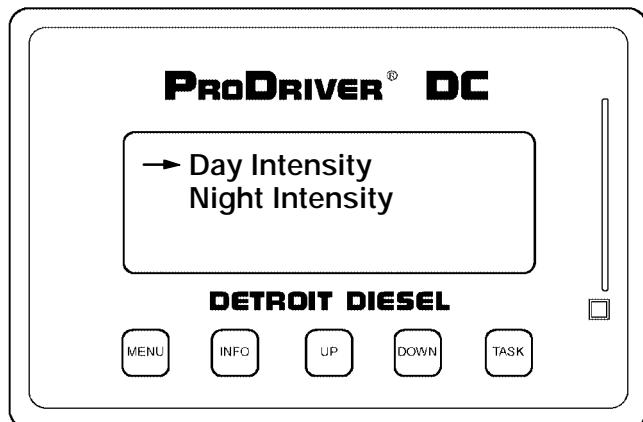
Figure 7-4   Display Intensity Select Screen

The following screen displays (see Figure 7–5).
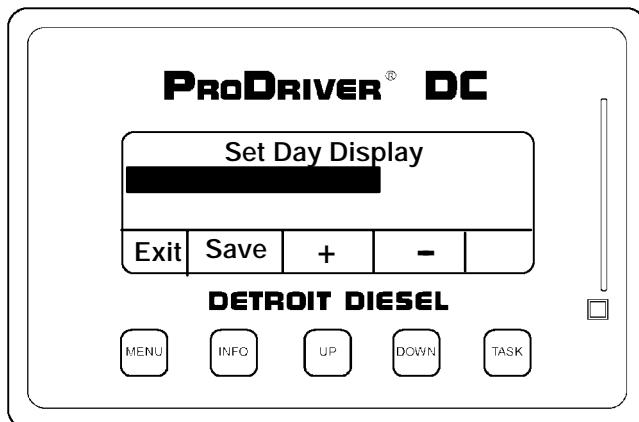
Figure 7-5   Set Day Display Intensity Screen

Adjust the intensity to the desired level using ☐ + ☐ to increase intensity or ☐ — ☐ to decrease intensity. To save and exit, press ☐ SAVE ☐. To exit without saving, press ☐ EXIT ☐. These settings will now be used as the normal settings until adjusted by these same steps again. Repeat process for night intensity.

7.1.1.1 Temporary Override of Display Intensity

Temporary adjustments to display intensity may be made while in the Fuel Economy, Idle or Leg Summary pages by pressing ☐ UP ☐ or ☐ DOWN ☐. The normal setting returns the next time the engine is started.

From the Fuel Economy screen (Idle, Leg Summary):

Press ☐ UP ☐ or ☐ DOWN ☐ to view Display Intensity screen.

Press ☐ + ☐ (☐ — ☐) to change intensity.

Press ☐ EXIT ☐ to use new setting.

7.1.2 Units

The Units for distance and fuel consumption may be changed by the user.

The user can select from four units of measurement. They are Miles per U.S. Gallon (MPG), Miles per Imperial Gallon (MPIG), Kilometers per Liter (Km/L), and Liters per 100 Kilometers (LPHK). The unit of measure can be changed any time during a trip without loss of memory.

From the Main Menu:

⟶ Configuration, ☐ INFO ☐, ⟶ Units, ☐ INFO ☐.

Press ☐ UP ☐ (☐ DOWN ☐) to place ⟶ on the Units you wish to use. Press ☐ INFO ☐,

Press ☐ YES ☐ to use or ☐ NO ☐ to exit without using.

7.1.3 Driver ID

The Driver ID allows data collected from the ProDriver DC to be linked to a specific driver. A driver ID is entered using the Driver ID screen when a driver card is not present (see Figure 7-6).
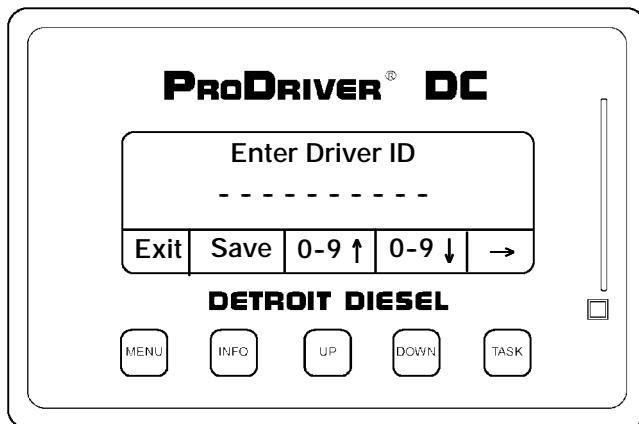
Figure 7-6   Driver ID Screen

NOTE*:*
Driver ID and Vehicle ID can be configured to either accept numeric or alphanumeric data. Numeric is the default, if the Data Entry Input is set to alphanumeric, the UP button will have the alternate definition of 0-Z.

Refer to section 7.3.5.3, "ID Data Type," to customize setup for selection of numeric or alphanumeric data entry.

Use the following steps if you wish to enter or change the current driver ID.

From the Main Menu:

⟶ Configuration, ☐ INFO ☐, ⟶ Driver ID, ☐ INFO ☐.

Press ☐ 0-9 ↑ ☐ or ☐ O-Z ↑ ☐ to increment the selected digit.

Press ☐ → ☐ to select the next digit to the right.

Press ☐ SAVE ☐ to accept the new Driver ID.

If the current Driver ID is acceptable press ☐ EXIT ☐.

The Enter Driver ID screen displays for 30 seconds.

If you wish to change the Driver ID use the following procedure which starts from the Main Menu.

⟶ Configuration, | INFO |, ⟶ Driver ID, | INFO |.

The Driver ID may consist of up to 10 alphanumeric characters and blank spaces in any combination.

From the Driver ID screen:

Press | 0-9 ↑ | or | O-Z ↑ | to increment the selected digit.

Press | → | to select the next digit to the right.

To save and exit, press | SAVE |.

To exit without saving, press | EXIT |.

7.2   REVIEW SETUP

The Review Setup menu allows setup information to be viewed without clearing the Trip Summary or entering the password in Manager/Driver Access Mode.

From the Main Menu: ⟶ Configuration, INFO , ⟶ Setup, INFO .

The following screen displays (see Figure 7-7).
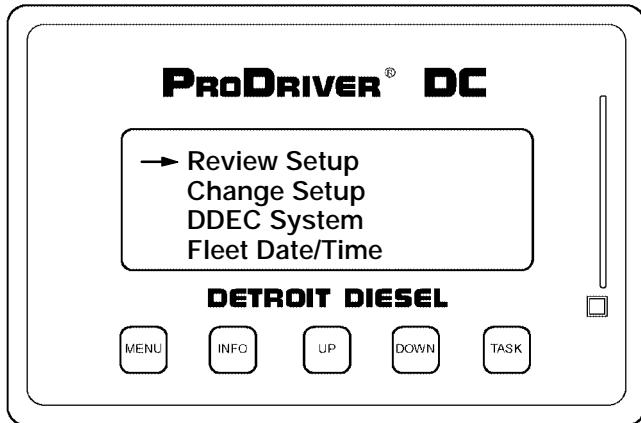
Figure 7-7   Setup Screen

From the Setup screen: ⟶ Review Setup, INFO . The Review Setup screen displays (refer to section 7.2.1).

7.2.1 Review Limits

The Review Limits menu allows the viewing of the Idle Time Limit, Overspeed, and Hard Braking Limit parameters (see Figure 7-8).

REVIEW LIMITS

IDLE TIME LIMIT   OVERSPEED   HARD BRAKING LIMIT

SPEEDING A   SPEEDING B   OVER REV
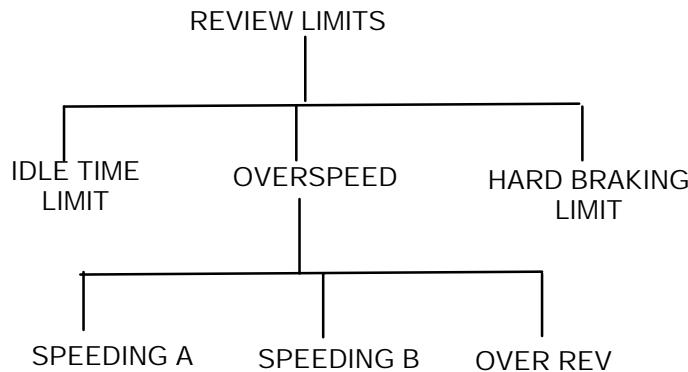
Figure 7-8   Review Limits Menu Map

From the Main Menu: ⟶ Configuration, ⟨ INFO ⟩, ⟶ Setup, ⟨ INFO ⟩, ⟶ Review Setup, ⟨ INFO ⟩.

The following screen displays (see Figure 7-9).

PRODRIVER® DC

➝ Review Limits
  Review Values
  Review Vehicle ID
  Review ProDriver Data

DETROIT DIESEL

⟨MENU⟩ ⟨INFO⟩ ⟨UP⟩ ⟨DOWN⟩ ⟨TASK⟩
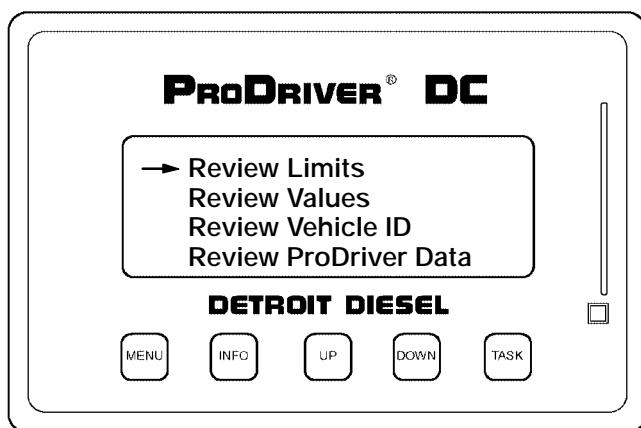
Figure 7-9   Review Setup Screen

From the Review Setup screen: ⟶ Review Limits, INFO . The
Review Limits screen displays (see Figure 7‑10).
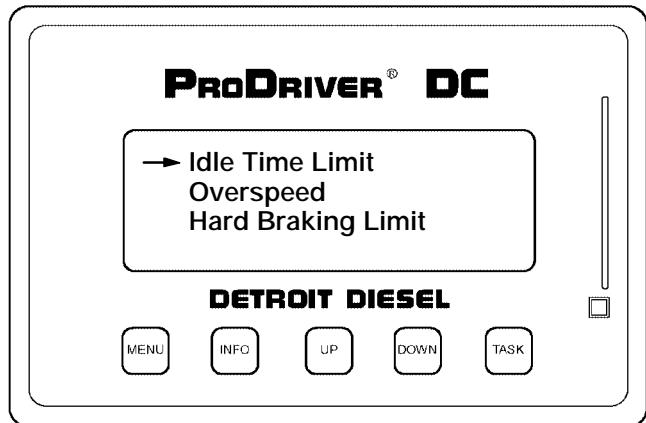
Figure 7‑10 Review Limits Screen

Move ⟶ to the limit you wish to review and press INFO . The Idle
Time Limit screen (see Figure 7‑11) or the Overspeed or Hard Braking
Limit screen displays.
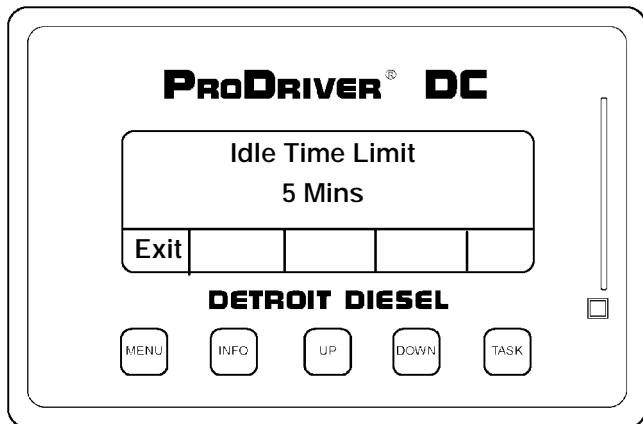
Figure 7‑11 Idle Time Limit Screen

NOTE*:*
The Idle Time Limit is the threshold limit for Stop Idle time recording.

NOTE:
This feature is not related to and does not affect the Idle Shutdown Timer.

Once you have reviewed the limits, press ⌐EXIT⌐ from the Idle Time Limit, Overspeed, or Hard Braking Limit screen to return to the Review Limits screen (see Figure 7--10). From the Review Limits screen, press ⌐MENU⌐ to return to the Review Setup screen (see Figure 7--9).

This function allows only a review of the limits, values and data. To change the limits, refer to section 7.3.1, "Changing Limits."

7.2.2 Review Values

The Review Values menu allows the view of Odometer, Fleet Goals, and Oil Change Monitor values (see Figure 7-12).
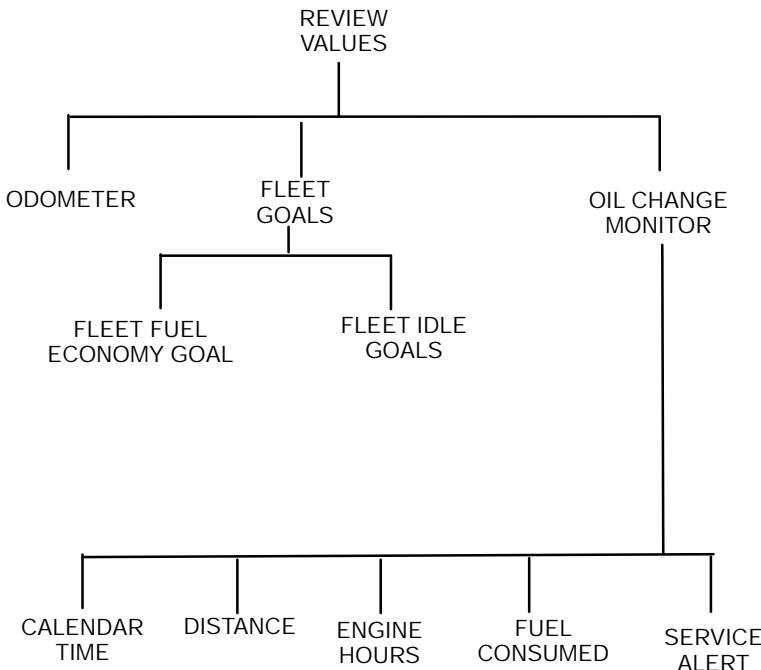
Figure 7-12 Review Values Menu Map

From the Main Menu:

     ⟶ Configuration, [INFO], ⟶ Setup, [INFO],

     ⟶ Review Setup, [INFO], ⟶ Review Values, [INFO].

The Review Values screen displays. Move ⟶ to the value you wish to review and press [INFO].

Once you have reviewed the limits, press [EXIT] from the Odometer, Fleet Goals, or Oil Change Monitor screen to return to the Review Values

screen (see Figure 7-10). From the Review Values screen, press $\boxed{\text{MENU}}$ to return to the Review Setup screen (see Figure 7-9).

7.2.3 Review Vehicle ID

The Review Vehicle ID screen displays the current Vehicle ID.

From the Main Menu:

> ⟶ Configuration, $\boxed{\text{INFO}}$, ⟶ Setup, $\boxed{\text{INFO}}$,

> ⟶ Review Setup, $\boxed{\text{INFO}}$, ⟶ Review Vehicle ID, $\boxed{\text{INFO}}$.

The Vehicle ID screen displays. Press $\boxed{\text{EXIT}}$ to return to the Review Setup screen.

7.2.4 Review ProDriver Data

The Review ProDriver Data screen allows the viewing of Alarm, Button Feedback, Last Stop Incident, Driver Card, Speeding A, Speeding B, Over Rev, and Prompted Driver ID.

From the Main Menu:

> ⟶ Configuration, $\boxed{\text{INFO}}$, ⟶ Setup, $\boxed{\text{INFO}}$,

> ⟶ Review Setup, $\boxed{\text{INFO}}$, ⟶ Review ProDriver Data, $\boxed{\text{INFO}}$.

The following screen displays (see Figure 7-13).

NOTE:
The down arrow indicates that there is more data on another screen.
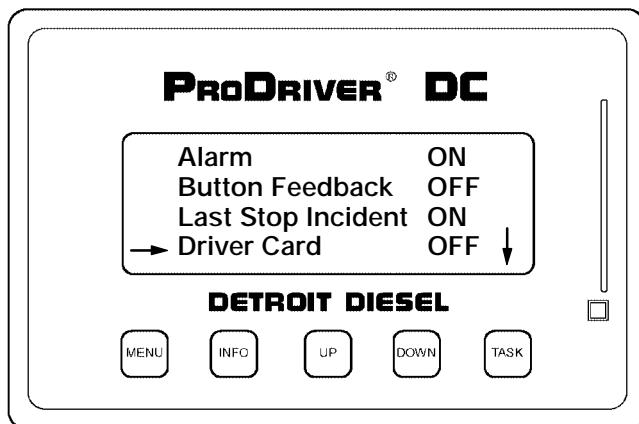
Figure 7-13 ProDriver Data Menu - Screen 1

Press DOWN for the next screen (see Figure 7-14).
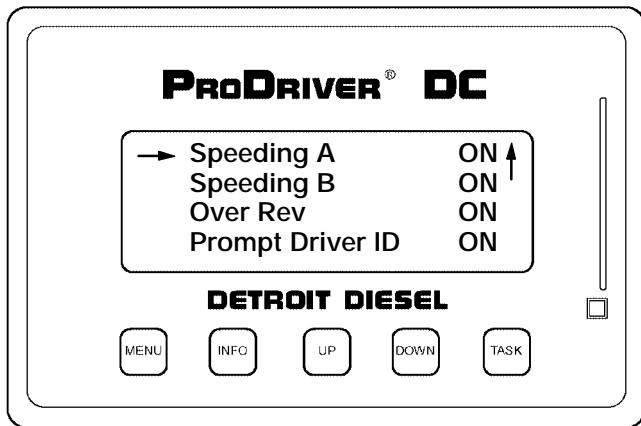
Figure 7-14 ProDriver Data Menu - Screen 2

Press MENU to return to the Review Setup screen (see Figure 7-9).

7.3 CHANGE SETUP

The Change Setup menu allows the changing of limits, values, access modes, and vehicle data parameters.

NOTE:
Any accumulated stored trip data must be cleared before the setup can be changed. Refer to section 6, "Clearing Summary and Alert Information."

ProDriver DC has two access modes: Owner/Operator and Manager/Driver. The Owner/Operator mode does not require a password to change Setup. The Manager/Driver mode requires a password to enter the Change Setup menu.

From the Main Menu:

⟶ Configuration, INFO, ⟶ Setup, INFO, ⟶ Change Setup, INFO.

The following screens display (see Figure 7-15 and Figure 7-16).

NOTE:
The down arrow indicates that there is more data on another screen.
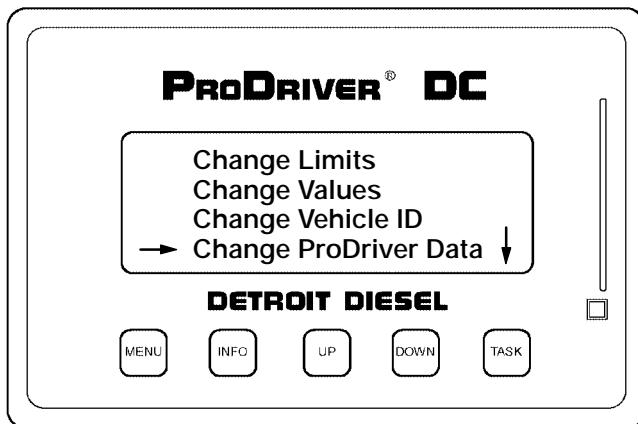
Figure 7-15 Change Setup Menu - Screen 1
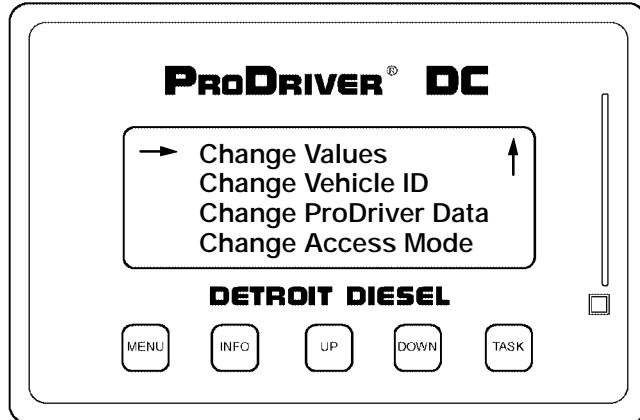
Figure 7-16 Change Setup Menu - Screen 2

If Access Mode is set to "Manager/Driver" a password is required to access this menu. The password is up to six numeric characters or spaces. The default password is _ _ _ _ _ _.

From the Enter Password screen:

Press ⎣ 0-9 ↑ ⎦ to increment the selected digit.

Press ⎣ → ⎦ to select the next digit to the right.

ProDriver DC will prompt you to confirm your new password.

Press ⎣ SAVE ⎦ to confirm and exit.

Press ⎣ EXIT ⎦ to exit without changing the limit.

7.3.1 Changing Limits

ProDriver DC has five limits that can be changed: Idle Time Limit, Overspeed A, Overspeed B, Over Rev, and Hard Braking Limit (see Figure 7-17). The following sections will guide you in customizing these limits to suit your vehicle application.

```
                          CHANGE LIMITS
                                |
         ┌──────────────────────┼──────────────────────┐
         |                      |                      |
    IDLE TIME             OVERSPEED            HARD BRAKING
      LIMIT                    |                   LIMIT
                   ┌───────────┼───────────┐
                   |           |           |
              SPEEDING A   SPEEDING B   OVER REV
```
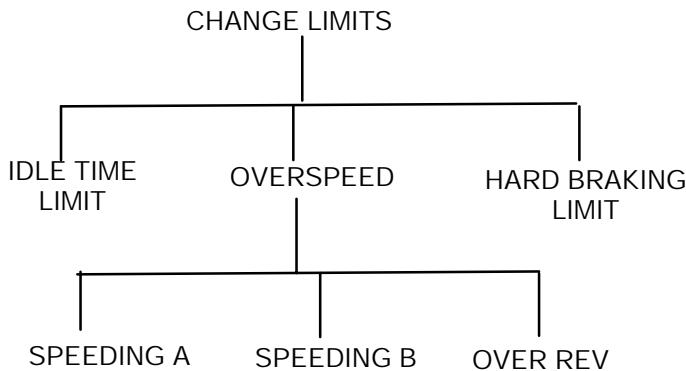
Figure 7-17 Change Limits Menu Map

7.3.1.1 Idle Time Limit

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,

⟶ Change Setup, INFO , ⟶ Change Limits, INFO ,

⟶ Idle Time Limit, INFO .

The following screen displays (see Figure 7-18).
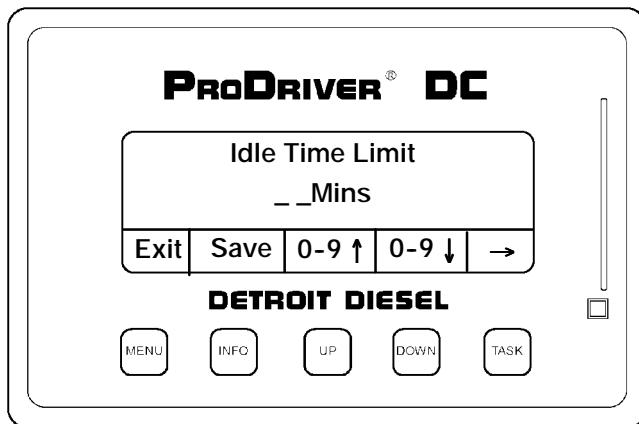
Figure 7-18 Idle Time Limit Screen

NOTE*:*
The Idle time Limit is the threshold limit for Stop Idle time recording.

Enter Idle Time Limit (1 minute minimum to 99 minute maximum time
limit). The default value is 5 minutes.

Press 0-9 ↑ to increment the selected digit.

Press → to select the next digit to the right.

Press SAVE to save and exit.

Press EXIT to exit without saving.

7.3.1.2 Overspeed Limits

Select Vehicle Overspeed ''A'', ''B'', or Over Rev. These overspeed categories are speed bands. ProDriver DC monitors and records the percent of trip time and actual time in each speed band for the trip. Overspeed band ''A'' can be setup as a violation warning band and overspeed ''B'' can be used as the actual violation overspeed band for vehicle speed. Time recorded for overspeed band ''B'' does not include the time spent in overspeed band ''A''. The engine over rev band is a single band.

The minimum and maximum band values are listed in Table 7-1.

Data Item	Minimum	Maximum	Default Value
Overspeed A	Speed Band 7*+1	Overspeed B-1	66 MPH
Overspeed B	Overspeed A + 1	255 MPH	71 MPH
Over RPM	RPM Band 8* + 100	9900 RPM	1800 RPM
* Value of bands is found on the Configuration Report produced by Detroit Diesel Data Summaries.			

Table 7-1   Overspeed and Over Rev Values

The vehicle speed band and engine speed band values can be modified by Detroit Diesel Data Summaries software. The defaults are listed in Table 7-2 and Table 7-3.

Data Item	Speed Band								
	1	2	3	4	5	6	7	8	9
Vehicle Speed	10	20	30	40	50	55	60	66	71

Table 7-2   Speed Band Default Values

Data Item	RPM Band								
	1	2	3	4	5	6	7	8	9
Engine Speed	700	1000	1200	1300	1400	1500	1600	1700	1800

Table 7-3   RPM Band Default Values

From the Main Menu:

⟶ Configuration, ⟨ INFO ⟩, ⟶ Setup, ⟨ INFO ⟩, ⟶ Change
Setup, ⟨ INFO ⟩, ⟶ Change Limits, ⟨ INFO ⟩, ⟶ Overspeed,
⟨ INFO ⟩, ⟶ Speeding A (B or Over Rev).

If Speeding A was chosen, the following screen displays (see Figure 7-19).
A similar screen displays for Speeding B or Over Rev.
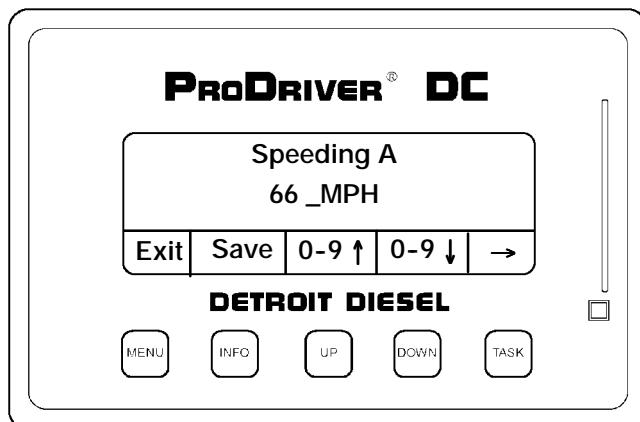
**Figure 7-19 Overspeed A, One of the Overspeed Limits
Screens**

Press ⟨ 0-9 ↑ ⟩ to increment the selected digit (three digits for MPH,
two digits for RPM).

Press ⟨ → ⟩ to select the next digit to the right.

Press ⟨ SAVE ⟩ to save and exit.

Press ⟨ EXIT ⟩ to exit without saving the current limit.

Continue to select the next overspeed category or press ⟨ MENU ⟩ to exit.

7.3.1.3 Hard Braking Limit

The factory default setting is 7 MPH/S. Hard Braking is only recorded if speed is greater than 17 MPH.

To change this limit use the following steps.

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,

⟶ Change Setup, INFO , ⟶ Change Limits, INFO ,

⟶ Hard Braking Limit, INFO .
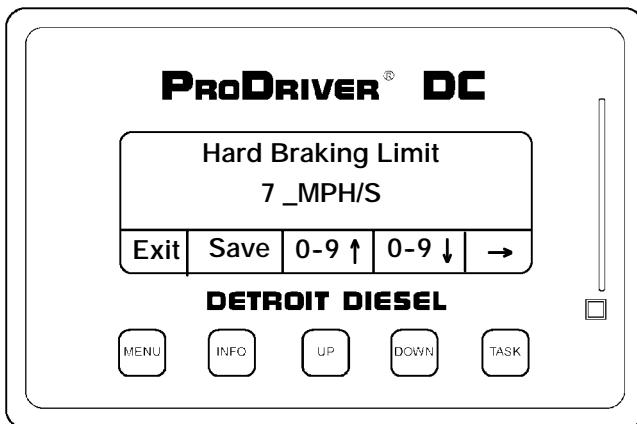
Figure 7-20 Hard Braking Limit Screen

Press 0-9 ↑ to increment the selected digit.

Press → to select the next digit to the right.

Press SAVE to save and exit.

Press EXIT to exit without changing the limit.

7.3.2 Changing Values

ProDriver DC has three values which can be changed in its setup memory.
Those values are the Odometer, Fleet Goals, and Oil Change Monitor
(see Figure 7-21).
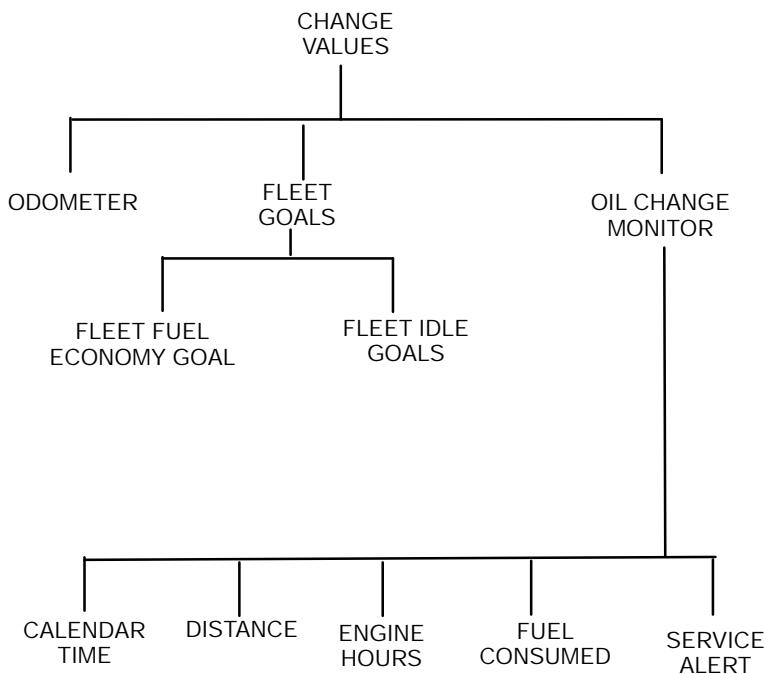
Figure 7-21 Change Values Menu Map

To change values use the following steps.

From the Main Menu:

$\longrightarrow$ Configuration, INFO , $\longrightarrow$ Setup, INFO ,

$\longrightarrow$ Change Setup, INFO , $\longrightarrow$ Change Values, INFO .

The following menu displays (see Figure 7-22).
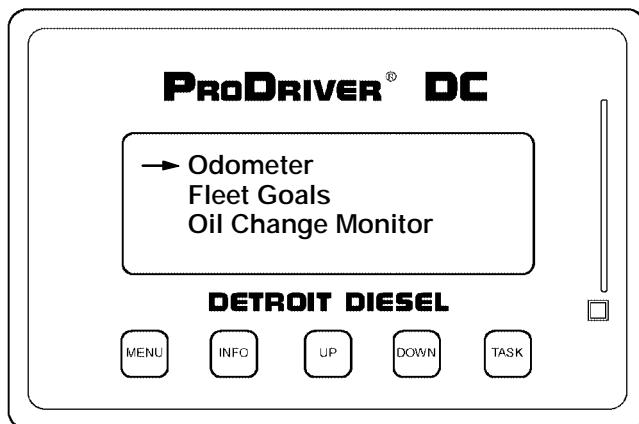
Figure 7-22 Change Values Screen

Move $\longrightarrow$ to the value to be changed and press INFO . Refer to section 7.3.2.1 if you are changing the odometer values. Refer to section 7.3.2.2 if you are changing the fleet goals. Refer to section 7.3.2.3 if you are changing the oil change monitor values.

7.3.2.1 Odometer Reading

To have ProDriver DC display the odometer mileage since its installation, skip this step in its entirety and the odometer will start from 0. To match the vehicle odometer please follow the next set of instructions.

NOTE:
It is possible to see a small error in the odometer reading between the speedometer and the information broadcast by the ECM. This difference may even grow in time. This error is due to small differences in the calibration of the two devices.

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,

⟶ Change Setup, INFO , ⟶ Change Values, INFO ,

⟶ Odometer, INFO .

The following screen displays (see Figure 7-23).
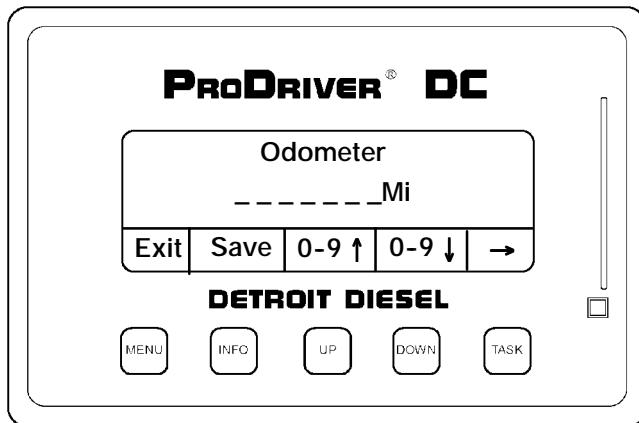
Figure 7-23 Odometer Mileage Screen

Enter the vehicle odometer reading:

Press 0-9 ↑ to increment the selected digit.

Press → to select the next digit to the right.

Press SAVE to save and exit.

Press EXIT to exit without changing the limit.

7.3.2.2 Changing Fleet Goals

The Fleet Goals menus allow the viewing and changing of the Fleet Fuel Economy Goal and the Fleet Idle Goal.

Fleet Fuel Economy Goal

The Fleet Fuel Economy Goal pointer is centered on the Fuel Economy screen (see Figure 7-24). The default setting is 6.0 MPG. You may adjust the Fleet Goal pointer through the Fleet Fuel Economy Goal Modification screen (see Figure 7-26).
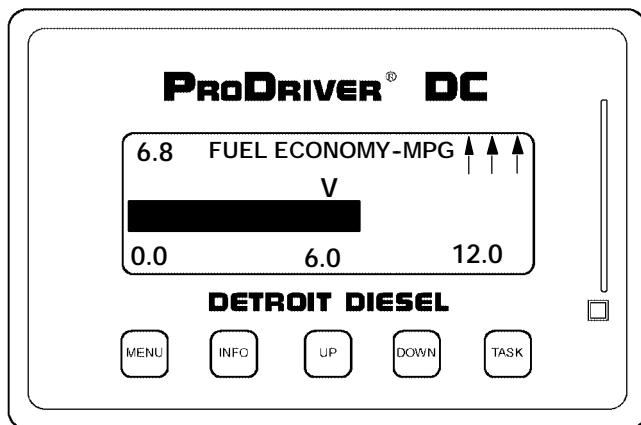
Figure 7-24 Fuel Economy Screen

From the Main Menu:

$\longrightarrow$ Configuration, $\boxed{\text{INFO}}$, $\longrightarrow$ Setup, $\boxed{\text{INFO}}$,

$\longrightarrow$ Change Setup, $\boxed{\text{INFO}}$, $\longrightarrow$ Change Values, $\boxed{\text{INFO}}$,

$\longrightarrow$ Fleet Goals.

The following screen displays (see Figure 7-25).
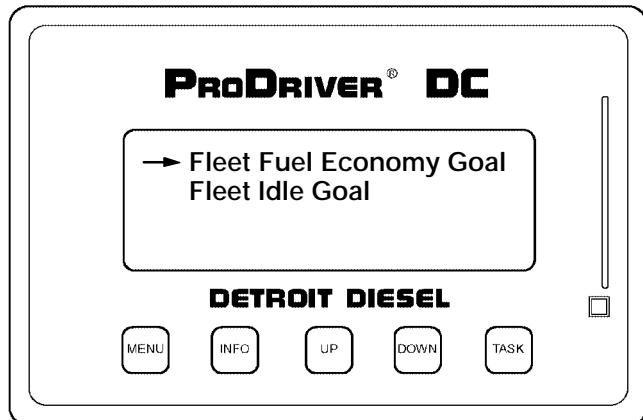
Figure 7-25 Fleet Goals Menu

From the Fleet Goals Menu: ⟶ Fleet Fuel Economy Goal, ⟨ INFO ⟩.

The Fleet Fuel Economy Goal Modification screen (see Figure 7-26) displays the current four-digit Fleet Fuel Economy Goal.
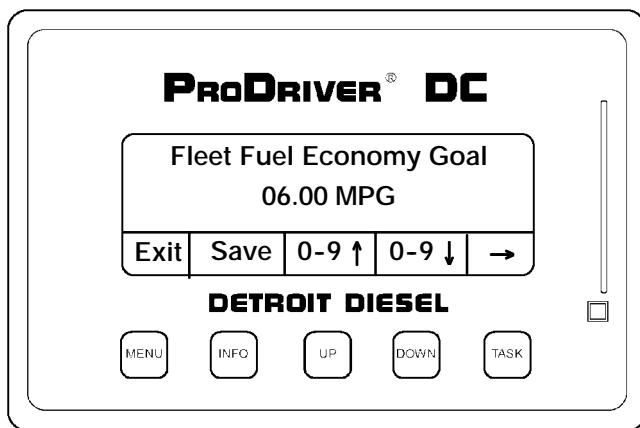
Figure 7-26 Fleet Fuel Economy Goal Screen

Enter the Fleet Fuel Economy Goal you wish the pointer to be centered on:

Press ⟨ 0-9 ↑ ⟩ to increment the selected digit.

Press ⟨ → ⟩ to select the next digit to the right.

Press ⟨ SAVE ⟩ to save and exit.

Press ⟨ EXIT ⟩ to exit without changing the limit.

Fleet Idle Goal

The Fleet Idle Goal pointer is centered on the Idle Time screen (see Figure 7-27). The default setting is 15%. You may adjust the Fleet Goal pointer through the Fleet Idle Goal Modification screen (see Figure 7-26).
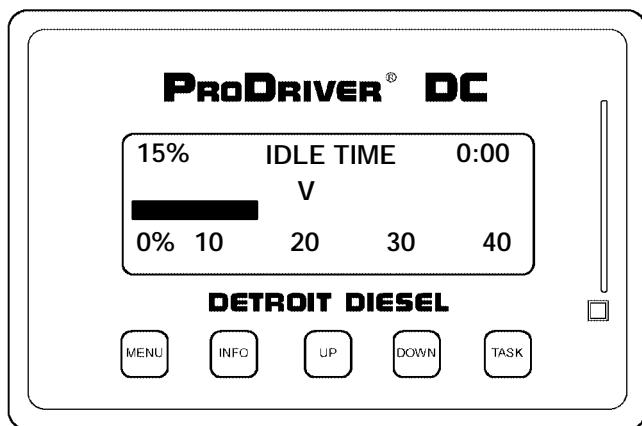
Figure 7-27 Idle Time Screen

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,

⟶ Change Setup, INFO , ⟶ Change Values, INFO ,

⟶ Fleet Goals.

The following screen displays (see Figure 7-25).
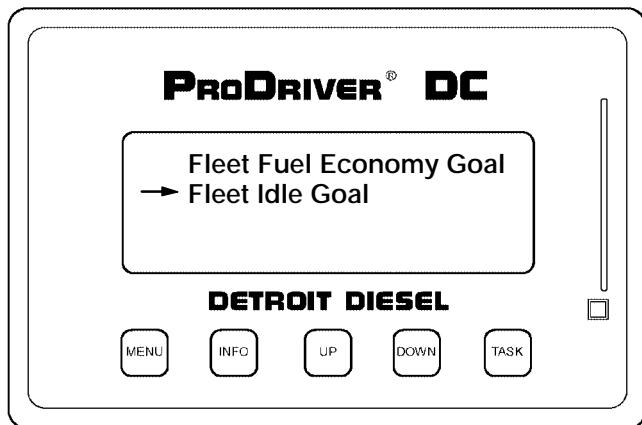
Figure 7-28 Fleet Goals Menu

From the Fleet Goals Menu: ⟶ Fleet Idle Goal, [INFO].

The Fleet Idle Goal Modification screen displays the current two–digit Fleet Idle Goal (see Figure 7-29).
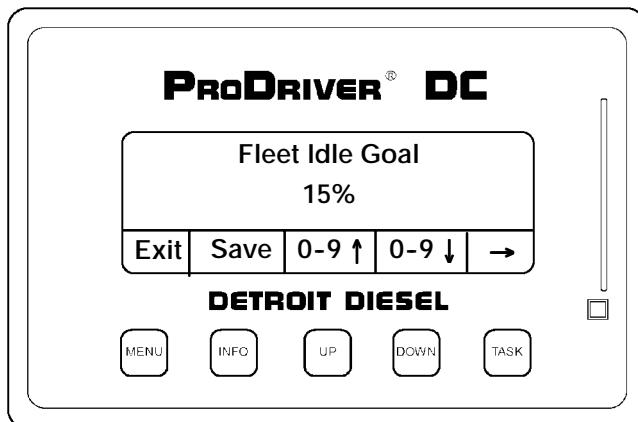
Figure 7-29 Fleet Idle Goal Modification Screen

Enter the Fleet Idle Goal you wish the pointer to be centered on:

Press [0-9 ↑] to increment the selected digit.

Press [→] to select the next digit to the right.

Press [SAVE] to save and exit.

Press [EXIT] to exit without changing the limit.

7.3.2.3 Oil Change Monitor

The Oil Change Monitor menu allows the viewing and changing of one of the following: Oil Change Monitor Distance, Engine Hours, Fuel Consumed, Calendar Days, or Service Alert Interval Limits. This is an option and may be omitted if desired.

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,

⟶ Change Setup, INFO , ⟶ Change Values, INFO ,

⟶ Oil Change Monitor, INFO .

The Oil Change Monitor screens display (see Figure 7-30 and Figure 7-31).

NOTE:
The down arrow indicates that there is more data on another screen.
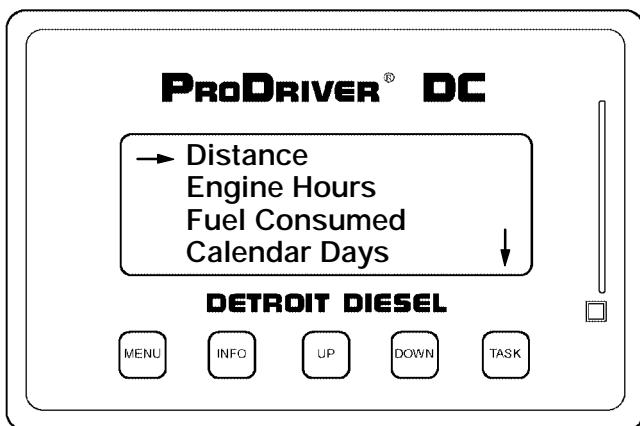
Figure 7-30 Oil Change Monitor Menu - Screen 1
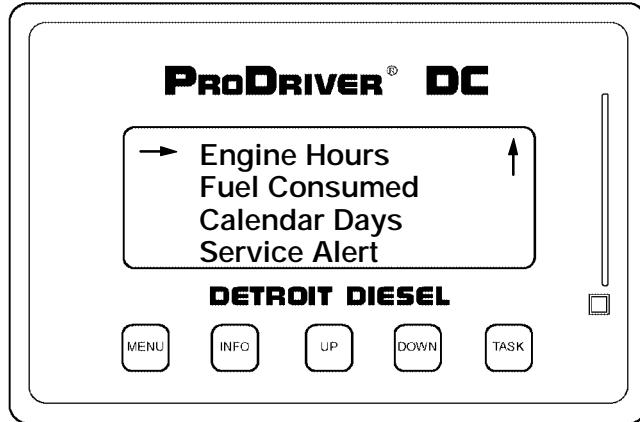
Figure 7-31 Oil Change Monitor Menu - Screen 2

Oil change intervals may be measured by Distance, Engine Hours, Fuel Consumed, or Calendar Time. Your choice of measurement interval is activated by entering and saving a value (see Figure 7-32). Changing any of the limit values (Distance, Engine Hours, Fuel Consumed, or Calendar Days) resets the other three to zero and clears the Oil Change Monitor. Service Alert sets the percent left in the selected measurement interval at which the driver will be notified to change the oil.

Enter Measurement and Alert Interval

NOTE:
To activate your choice of Distance, Engine Hours, or Fuel Consumed you must enter a percent left value in the Service Alert screen (Figure 7-32). A value of zero turns off the Service Alert, disabling the Oil Change Monitor feature.

From the Oil Change Monitor screen:

⟶ Distance (Engine Hours, Fuel Consumed, Calendar Time, Service Alert), INFO .

One of the following Oil Change Monitor screens display (Figure 7-32). Your choice of measurement interval determines which screen will appear.
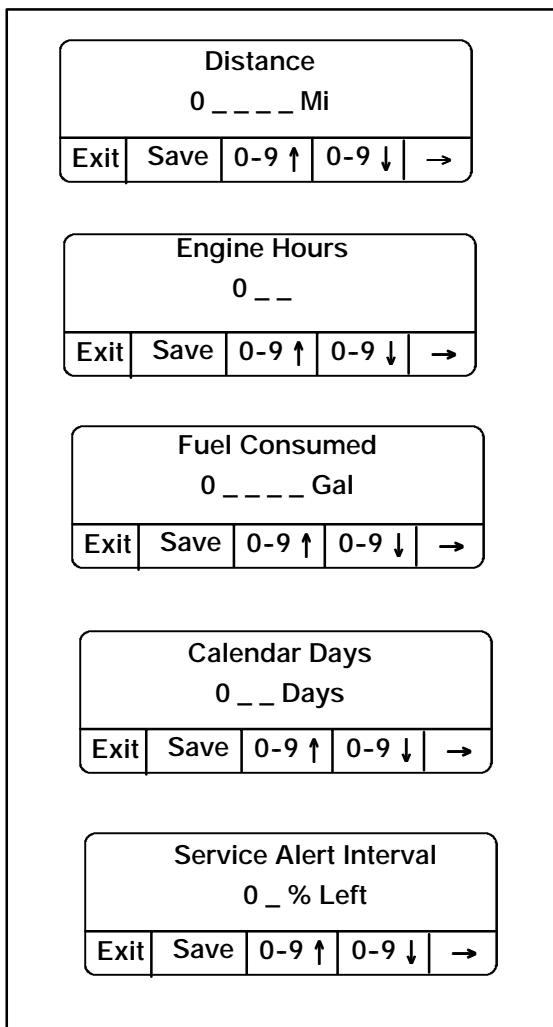
Figure 7-32 Oil Change Monitor Screens

Enter Distance (Engine Hours, Fuel Consumed, Calendar Time, Service Alert Interval):

Press | 0-9 ↑ | to increment the selected digit.

Press | → | to select the next digit to the right.

Press | SAVE | to save and exit.

Press | EXIT | to exit without changing the limit.

7.3.3 Change Vehicle ID

DDC recommends entering a Vehicle ID into the ProDriver DC memory
(see Figure 7-33). The vehicle ID is used by Detroit Diesel Data
Summaries℠ software to sort different vehicles when preparing trip reports.

NOTE*:*
Driver ID and Vehicle ID can be configured to either accept numeric
or alphanumeric data. The type of Data Entry Input can be selected
in the Change Access Mode screen (refer to section 7.3.5). If the ID
Entry type is set to alphanumeric, the UP button will have the
alternate definition of 0-Z.
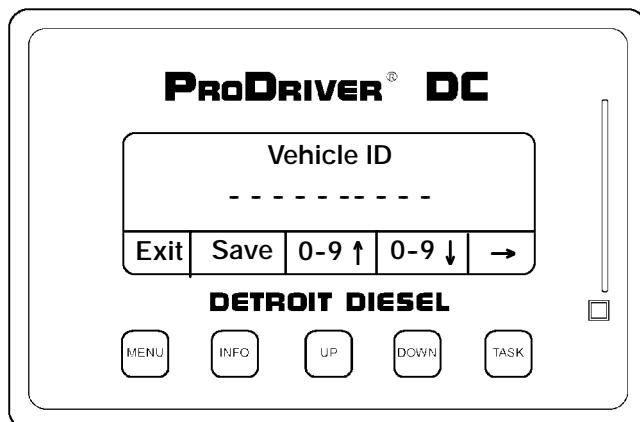
Figure 7-33 Vehicle ID Screen

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,

⟶ Change Setup, INFO , ⟶ Change Vehicle ID, INFO .

The Vehicle ID can consist of up to 10 alphanumeric characters and blank
spaces in any combination.

From the Vehicle ID screen:

Press 0-9 ↑ to increment the selected digit.

Press → to select the next digit to the right.

Press SAVE to save and exit.

Press EXIT to exit without changing the limit.

7.3.4 Change ProDriver Data

The Change ProDriver Data screens allow the viewing and modification of the Alarm, Button Feedback, Last Stop Incident, Driver Card, Overspeed A, Overspeed B, Over Rev, and Prompted Driver ID enable status.

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO , ⟶ Change Setup, INFO , ⟶ Change ProDriver Data, INFO .

The Change ProDriver Data screens display (see Figure 7-34 and Figure 7-35).
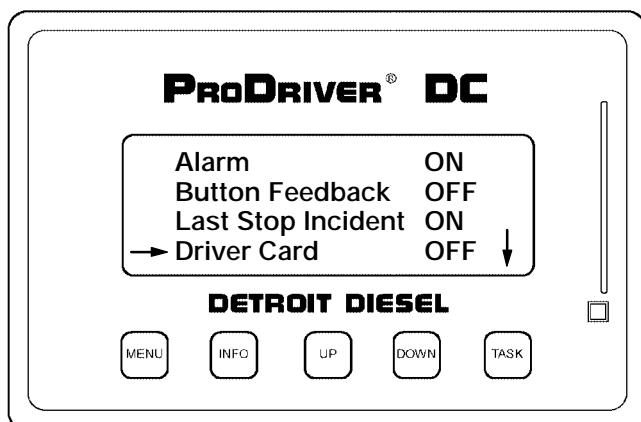
Figure 7-34 Change ProDriver Data Menu - Screen 1
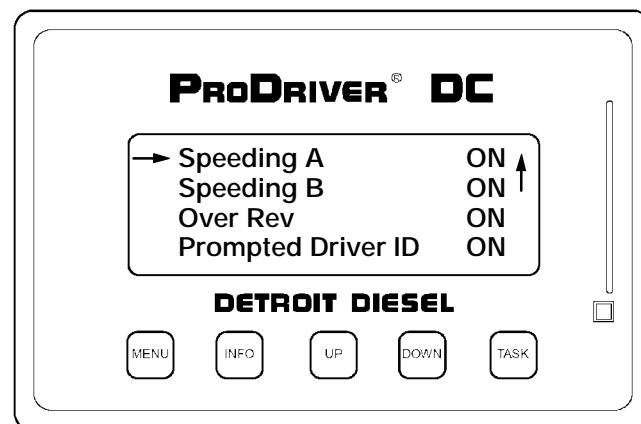
Figure 7-35 Change ProDriver Data Menu - Screen 2

The items on the Change ProDriver menu, the consequence of turning them
on or off, and their default settings are listed in Table 7--4. Pressing
INFO will toggle the features on and off.

ProDriver Data	Action	Default
Alarm	Turns On/Off the audible alarm.	Off
Button Feedback	Turns On/Off the audible sound when a button is pressed.	On
Last Stop Incident	Turns On/Off the recording of a two minute record of engine and vehicle activity. Last Stop Incident captures data without driver input.	On
Driver Card	Turns On/Off the use of a Driver Card.	Off
Speeding A	Turns On/Off the warning for the Speeding A interval.	On
Speeding B	Turns On/Off the warning for the Speeding B interval.	On
Over Rev	Turns On/Off the warning for an Over Rev condition.	On
Prompt Driver ID	Turns On/Off the feature that prompts for a driver ID when ProDriver DC is turned On.	Off

Table 7--4   ProDriver Data

7.3.5 Change Access Mode Menu

The Change Access Mode menu allows the viewing and changing of the Access Mode, Password, and ID Entry Type (see Figure 7-36).
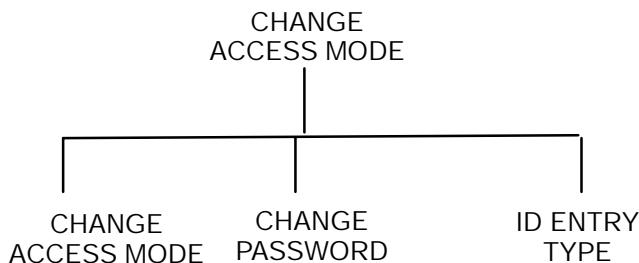
Figure 7-36 Change Access Menu Map

To change the Access Mode follow these steps.

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,

⟶ Change Setup, INFO , ⟶ Change Access Mode, INFO .

The Change Access Mode menu displays (see Figure 7-37)
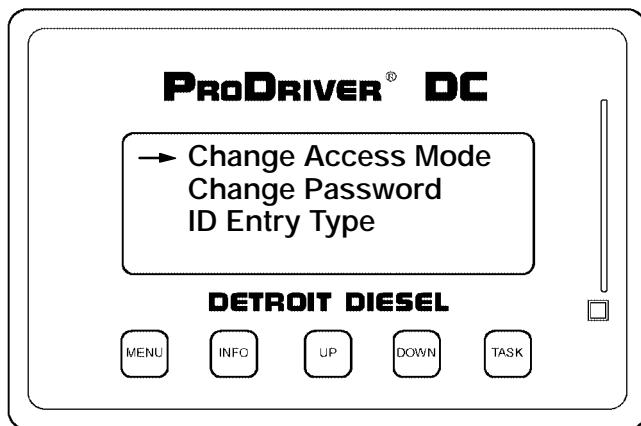
Figure 7-37 Change Access Mode Menu

7.3.5.1 Change Access Mode

The Change Access Mode screen allows the selection of an Access Mode, either Owner/Operator or Manager/Driver. Owner/Operator allows unrestricted operation, while Manager/Driver provides password controlled access for clearing trip data and modification of setup parameters. The default setting is Owner/Operator.

From the Change Access Mode menu:

⟶ Change Access Mode, INFO ,

⟶ Owner/Operator (Manager/Driver), INFO .

The following screen displays (see Figure 7--38).
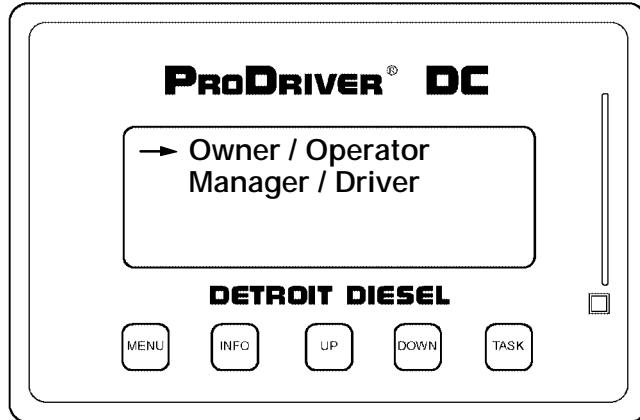
Figure 7--38 Owner / Operator Menu

If ProDriver DC has been programmed for Manager/Driver, you will need to enter your password to access the Change Setup Menu.

If you are changing Access Mode from Owner/Operator to Manager/Driver you will be prompted to enter a new password. The Password can consist of up to 6 numeric digits.

From the New Password screen:

Press 0-9 ↑ to increment the selected digit.

Press → to select the next digit to the right.

ProDriver DC will prompt you to confirm your new password.

Press SAVE to confirm and exit.

Press EXIT to exit without changing the limit.

7.3.5.2 Change Password

The Change Password Screen allows the viewing and changing of the six-digit ProDriver DC password. The default value is _ _ _ _ _ _..

Change Password applies only if the access mode for ProDriver DC is set to Manager/Driver.

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,

⟶ Change Setup, INFO .

Enter your current Password:

Press 0-9 ↑ to increment the selected digit.

Press → to select the next digit to the right.

⟶ Change Access Mode, INFO , ⟶ Change Password, INFO .

The Change Password screen displays (see Figure 7-39).
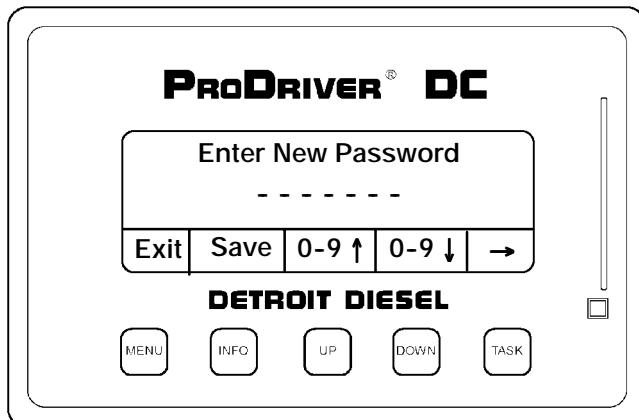
Figure 7-39 Change Password Screen

Enter a new password. The password can consist of up to 6 digits.

Press ⬚ 0-9 ↑ ⬚ to increment the selected digit.

Press ⬚ → ⬚ to select the next digit to the right.

ProDriver DC will prompt you to confirm your new password (see Figure 7-40).
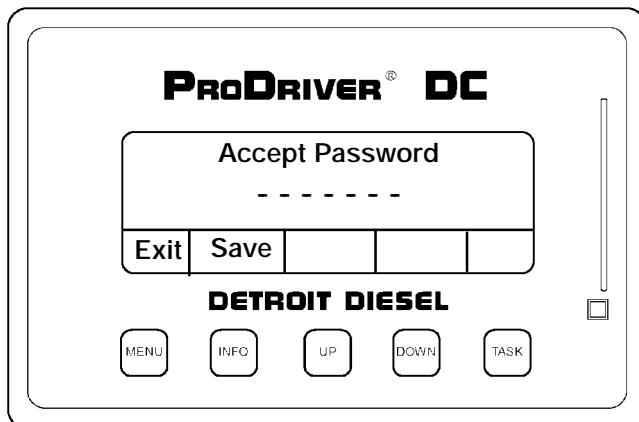
Figure 7-40 Password Verification Screen

Press ⬚ SAVE ⬚ to confirm and exit.

Press ⬚ EXIT ⬚ to exit without changing the limit.

7.3.5.3 ID Entry Type

ID Entry Type displays the current selected ID entry type (numeric or alphanumeric characters) for Driver and Vehicle ID. The default is numeric-only.

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO , ⟶ Change Setup, INFO , ⟶ Change Access Mode, INFO , ⟶ ID Entry Type, INFO .

The current setting displays on the screen. See Figure 7-41.
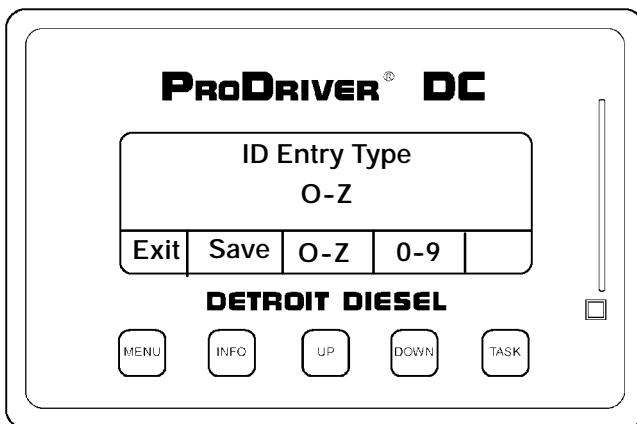
Figure 7-41 ID Entry Type Screen

Press O-Z (alphanumeric) or 0-9 (numeric) to select either option.

ProDriver DC will change the displayed mode.

Press SAVE to confirm and exit.

Press EXIT to exit without changing the option.

7.4   VIEWING THE DDEC SYSTEM

The ECM, ProDriver DC, and ProDriver DC ROM Software Release level
and serial numbers can be displayed on the ProDriver DC screen.

7.4.1   Software

From the Main Menu:

⟶ Configuration, INFO , ⟶ Setup, INFO ,
⟶ DDEC System, INFO , ⟶ Software, INFO .

The following screen displays (see Figure 7-42).
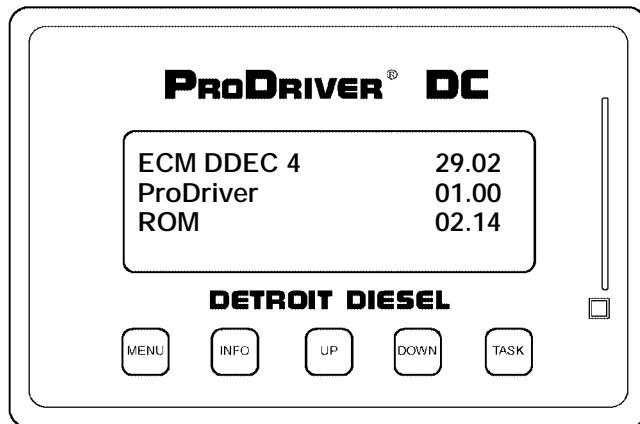
Figure 7-42 Software Release Display

There is only one screen associated with the Software Release Display. This
information is used by DDC to track the level of software in individual
units. The software release numbers will also be useful if a problem occurs
and assistance is required from DDC or its distributors.

7.4.2 Serial Numbers

The Engine, ECM, and ProDriver DC serial numbers can be displayed on the ProDriver DC screen.

From the Main Menu:

$\longrightarrow$ Configuration, $\boxed{\text{INFO}}$, $\longrightarrow$ Setup, $\boxed{\text{INFO}}$,

$\longrightarrow$ DDEC System, $\boxed{\text{INFO}}$, $\longrightarrow$ Serial Number, $\boxed{\text{INFO}}$.

The following screen displays (see Figure 7-43).
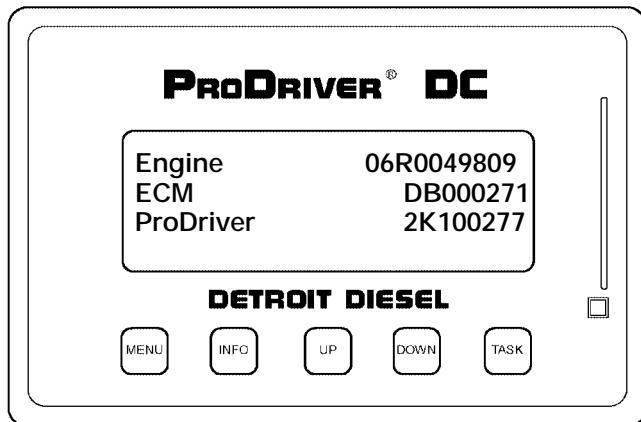
Figure 7-43 Serial Number Display

There is only one screen associated with the Serial Number Display. This information is used by DDC to track the parts listed and provide warranty on their products. The serial numbers will also be useful if a problem occurs and assistance is required from DDC or its distributors.

7.5   FLEET DATE / TIME

From the Main Menu: ⟶ Configuration, INFO , ⟶ Setup,
 INFO .

The following screen displays (see Figure 7-44).
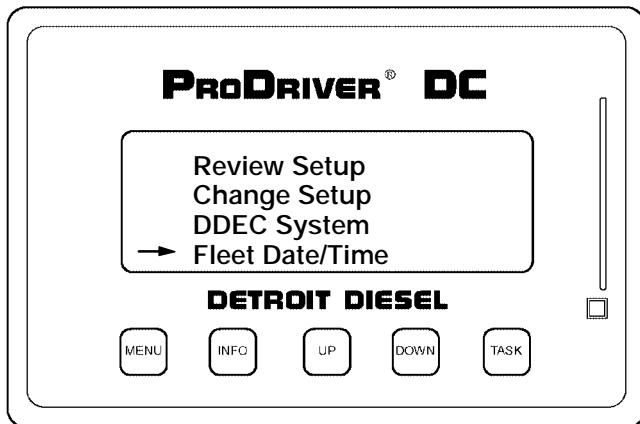
Figure 7-44 Setup Screen

From the Setup screen: ⟶ Fleet Date/Time, INFO . The Fleet
Date/Time screen displays (see Figure 7-45). The Date/Time screen
displays the current fleet date and time.
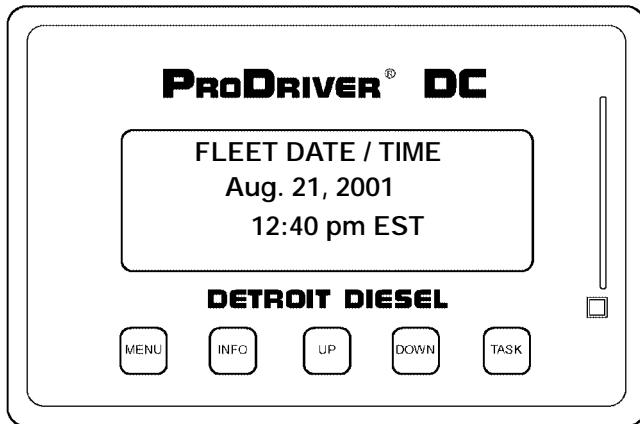
Figure 7-45 Fleet Date/Time Screen

8 TROUBLESHOOTING

This chapter describes the three most common ProDriver DC faults and troubleshooting procedures:

– No display appears on the screen when vehicle ignition
   is cycled on (refer to section 8.1 on page 110)

– Idle time screen always displays or no trip data recorded
   (refer to section 8.2 on page 115)

– Display does not dim when the headlights or running
   lights are turned on (refer to section 8.3 on page 121)

8.1   NO DISPLAY APPEARS ON SCREEN

Step 1

No Display Appears on the Screen
When Vehicle Ignition is Cycled On

Check for a blown fuse or open circuit breaker in switched
ignition (pink wire) or battery power (red wire).

Is the fuse or
circuit breaker
check
favorable?

No

Replace any blown fuse or
reset any open circuit
breaker. Recheck display
with the ignition turned on.

Yes

Go to
Step 2

No

Does the
display appear
on the screen?

Yes

Troubleshooting is
complete.

25973

For Step 2, see Figure 8-2.

Figure 8-1   Step1, No Display Appears on Screen

Step 2

No Display Appears on the Screen When Vehicle Ignition is Cycled On

Inspect the ProDriver harness connections for switched ignition, battery supply, and battery ground. Verify that the pink wire is securely connected to switched ignition, the red wire to battery positive, and the black wire to battery ground.

Are the connection checks favorable?

No → Correct any wrongly wired, missing, or faulty connections and recheck the display with ignition turned on.

Yes → Go to Step 3

No ← Does the display appear on the screen?

Yes → Troubleshooting is complete.

25974
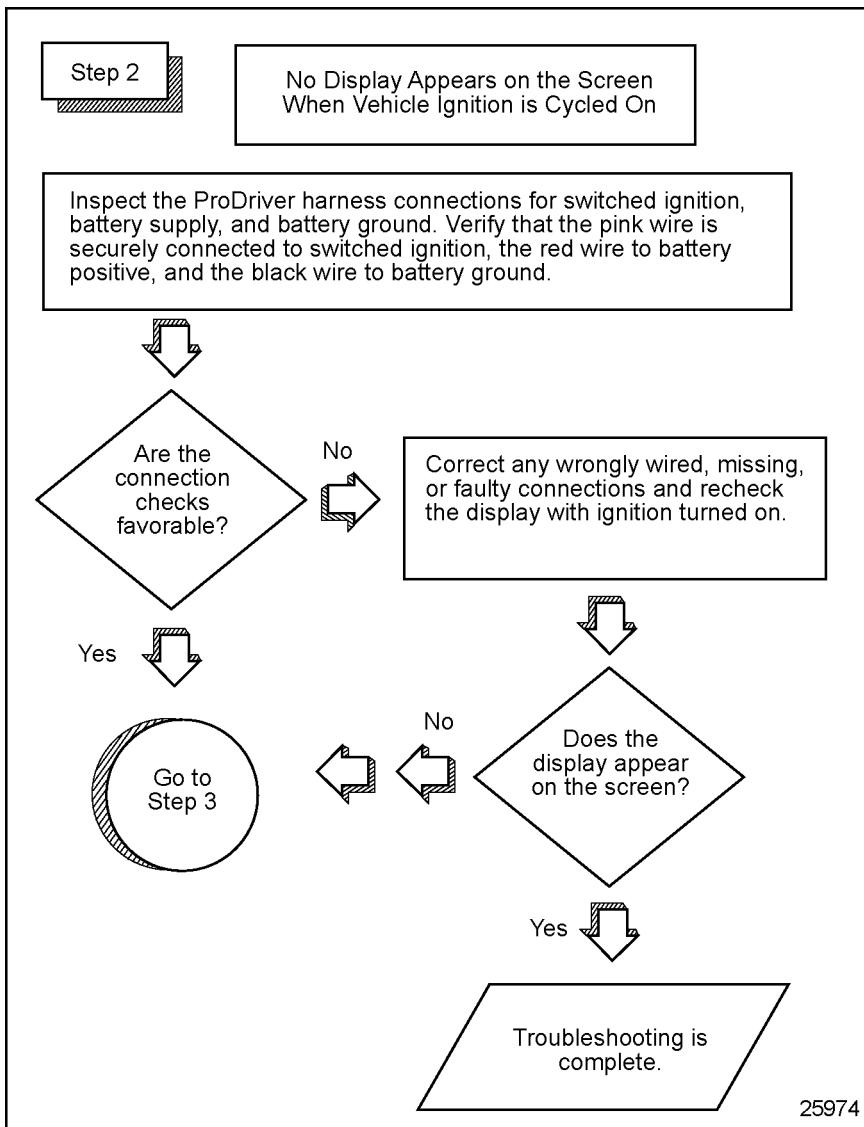
For Step 3, see Figure 8-3.

Figure 8-2   Step 2, No Display Appears on Screen

Step 3

No Display Appears on the Screen
When Vehicle Ignition is Cycled On

Check for power to the display using a volt-ohm meter
(VOM) to probe the pins of the ProDriver harness:

1. Disconnect the 6 pin ProDriver harness connector from
    the ProDriver display pigtail connector.
2. Put the black lead of the VOM on PIN #2 (black
    wire-battery ground).
3. Keeping the black lead on PIN #2, cycle the
    ignition on and check voltage at both PIN #1
    (red wire-battery power) and PIN #3 (pink wire-switched ignition)
    with the red lead of the VOM.

Greater than 8 volts at both positions

Is the VOM
reading less or
greater than
8 volts?
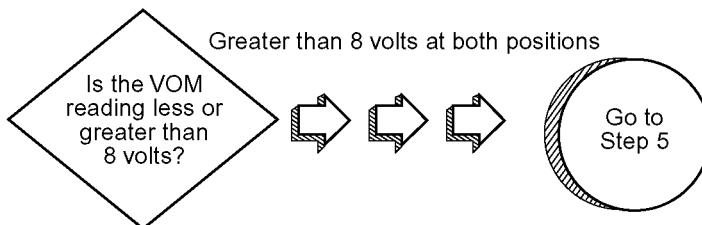
Go to
Step 5

Less than 8
volts at
either
position

Go to
Step 4
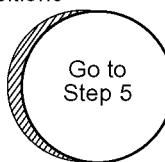
40511

For Step 4, see Figure 8-4.

For Step 5, see Figure 8-5.

Figure 8-3   Step 3, No Display Appears on Screen

Step 4

No Display Appears on the Screen
When Vehicle Ignition is Cycled On

Remove battery power and use a VOM to check circuit
continuity between either PIN #1 or PIN #3 of the ProDriver
harness connector and its power source. If both voltage
readings were low in step 3, check continuity of the battery
ground circuit by probing between PIN #2 and ground.

Are the
circuit
continuity
checks
favorable?

No → Repair the faulty circuit or replace
the harness. Reconnect the 6 pin
connector and recheck the display
with the ignition turned on.

Yes

Repeat
Step 2

Does the
display appear
on the screen?

No → Go to
Step 5

Yes

Troubleshooting is
complete.

40512

For Step 2, see Figure 8-2.

For Step 5, see Figure 8-5.

Figure 8-4   Step 4, No Display Appears on Screen

Step 5

No Display Appears on the Screen
When Vehicle Ignition is Cycled On

Inspect all terminals in both halves of the 6 pin
connector for bent, corroded, or unseated pins or sockets.

Are the
terminal
checks
favorable?

No — Repair terminals and reconnect
the 6 pin connector, and
recheck the display with ignition
turned on.

Yes

Reconnect and recheck the display with the ignition turned on.

Does the
display appear
on the screen?

No — Replace the ProDriver display

Yes

Troubleshooting is
complete.

40513

Figure 8-5   Step 5, No Display Appears on Screen

8.2   IDLE TIME SCREEN ALWAYS DISPLAYS
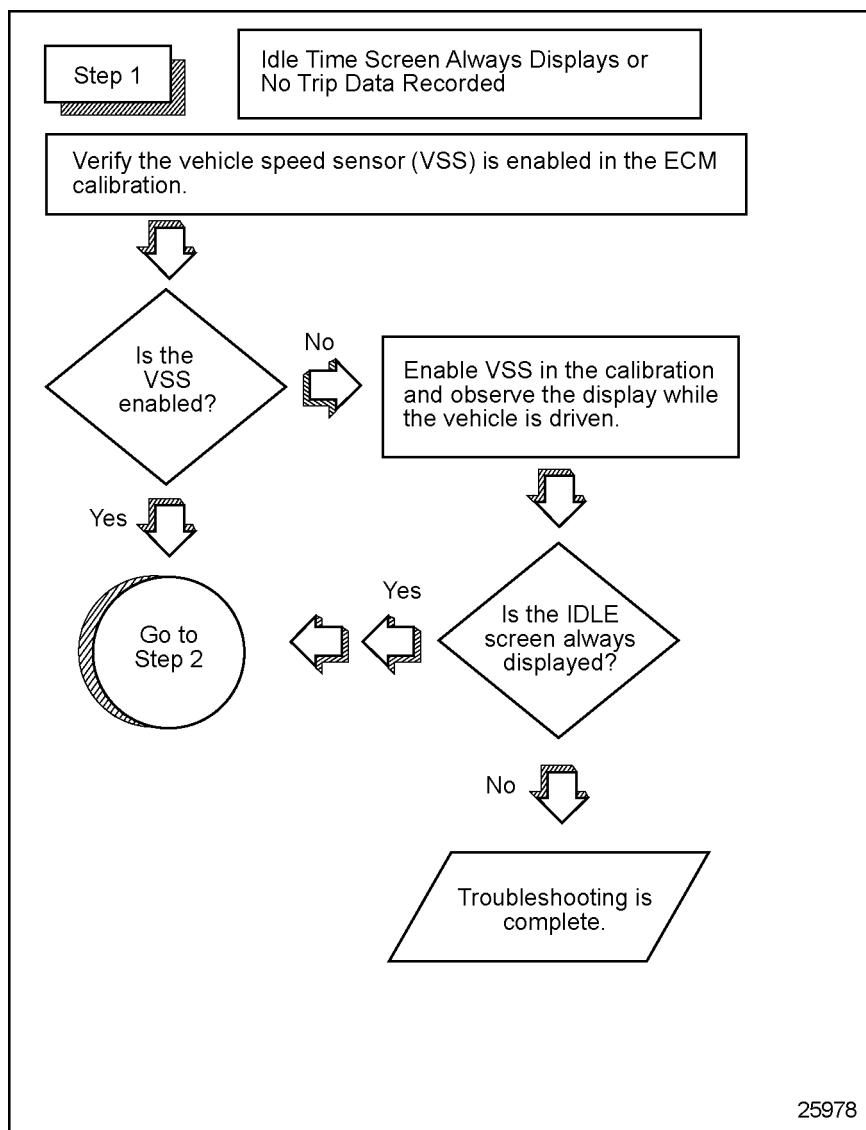
For Step 2, see Figure 8-7.

Figure 8-6   Step 1, Idle Time Screen Always Displays

Step 2 | Idle Time Screen Always Displays or No Trip Data Recorded

Check if an ACTIVE vehicle speed sensor failure code (PID:84 FMI:12) is being logged.

Is there an active VSS code present?

Yes → Troubleshoot and repair the vehicle speed sensor.

No → Go to Step 3

Is the IDLE screen always displayed?

Yes → Go to Step 3

No → Troubleshooting is complete.

25979
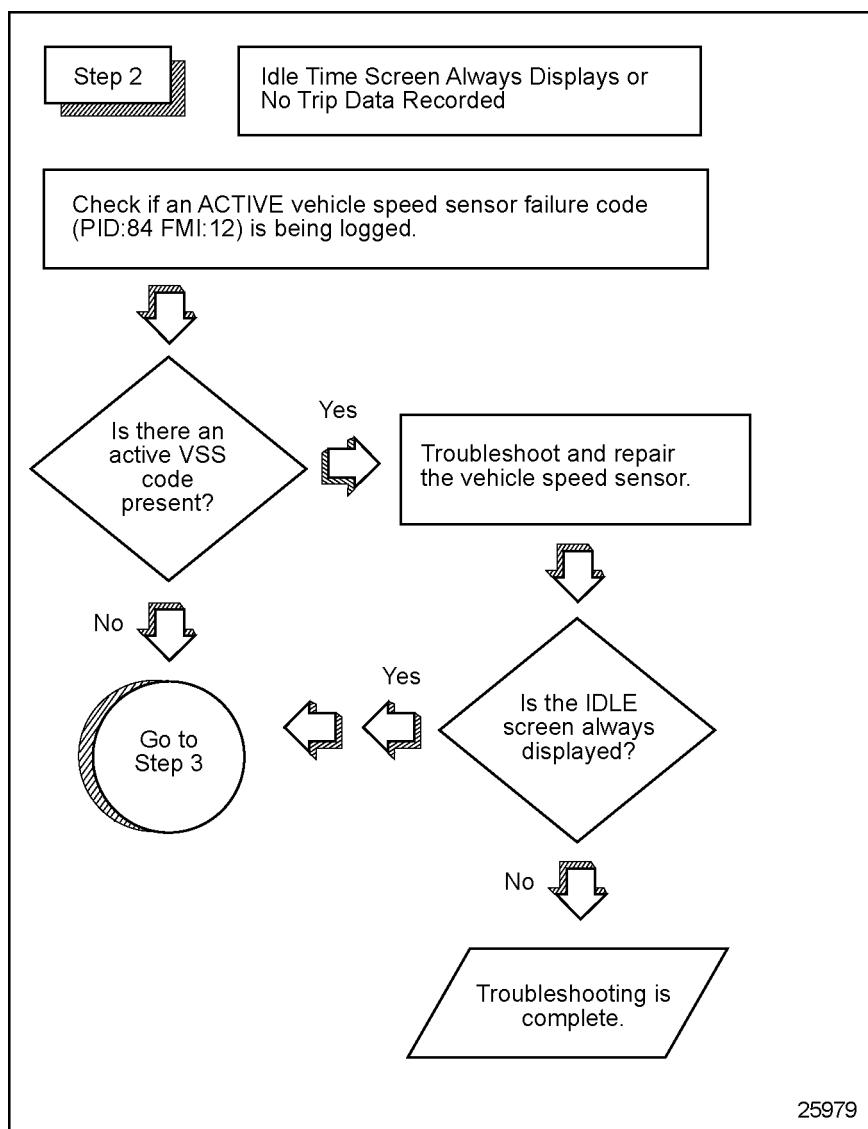
For Step 3, see Figure 8-8.

Figure 8-7   Step 2, Idle Time Screen Always Displays

Step 3 ▨ | Idle Time Screen Always Displays or No Trip Data Recorded

Inspect the ProDriver harness connections for the two J1708 data bus wires. Verify the dark green/yellow wire is connected to the positive data bus (J1708 +) and the dark green wire is connected to the negative data bus (J1708 −).

Are the connection checks favorable?

No → Correct any wrongly wired connections and recheck the display while the vehicle is driven.

Yes → Go to Step 4

Is the IDLE screen always displayed?

No → Troubleshooting is complete.

25980

For Step 4, see Figure 8-9.

Figure 8-8   Step 3, Idle Time Screen Always Displays

Step 4   Idle Time Screen Always Displays or No Trip Data Recorded

Check for opens in the data bus. With the ignition turned to OFF, disconnect the 6 pin ProDriver harness connector. Use a volt-ohm meter (VOM) to check circuit continuity between PIN #5 (J1708 +) and its connection to the positive data bus. Perform the same check between PIN #6 (J1708 –) and its connection to the negative data bus.

Are the continuity checks favorable?

No

Repair the faulty circuit or replace the harness. Reconnect the harness and observe the display while the vehicle is driven.

Yes

Go to Step 5

Is the IDLE screen always displayed?

No

Troubleshooting is complete.

40514

For Step 5, see Figure 8-10.

Figure 8-9   Step 4, Idle Time Screen Always Displays

6SE703 0202 Copyright E 2002 DETROIT DIESEL CORPORATION
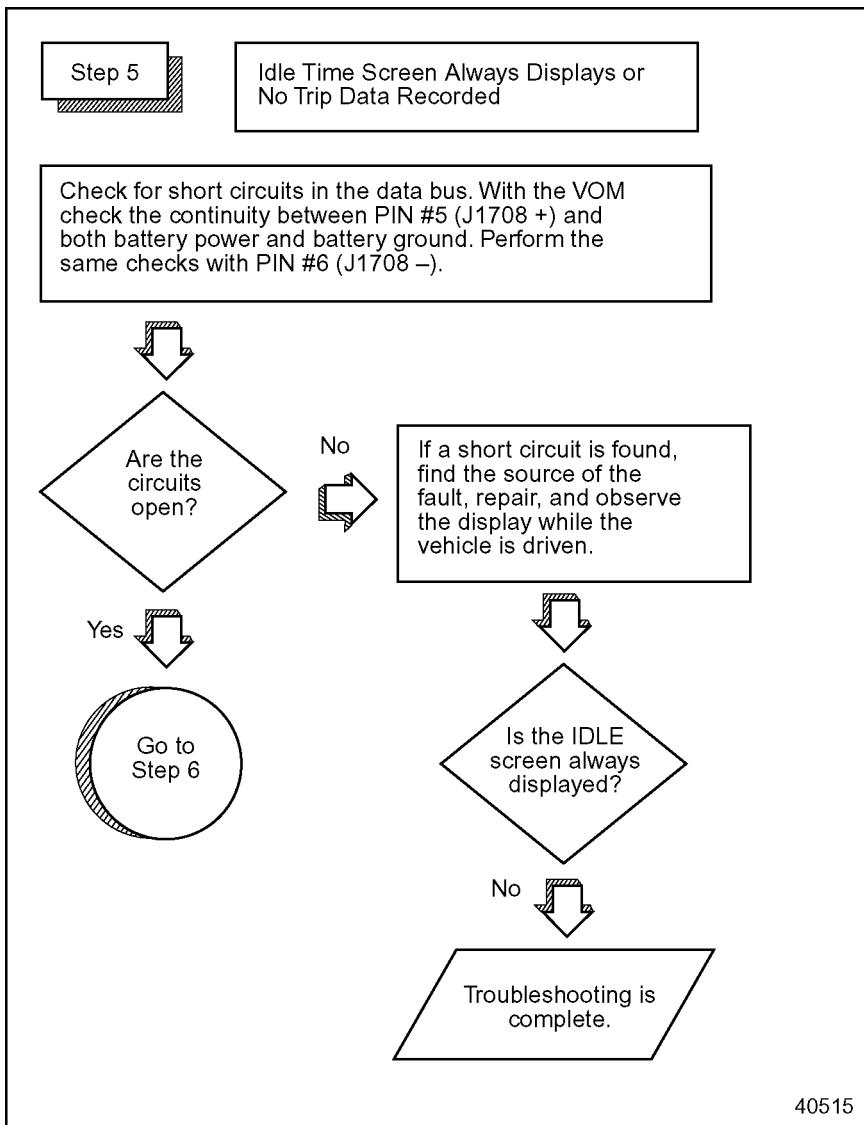
For Step 6, see Figure 8-11.

Figure 8-10 Step 5, Idle Time Screen Always Displays

Step 6 — Idle Time Screen Always Displays or No Trip Data Recorded

Inspect all terminals in both halves of the 6 pin connector for bent, corroded, or unseated pins or sockets.

Are the terminal checks favorable?

No → Repair terminals and reconnect the 6 pin connector, and recheck the display with ignition turned on.

Yes

Reconnect and observe the display while the vehicle is driven.

Is the IDLE screen always displayed?

No → Troubleshooting is complete.

Replace the ProDriver display.

40516

Figure 8‑11 Step 6, Idle Time Screen Always Displays

8.3   DISPLAY DOES NOT DIM

```
┌─────────────┐       ┌──────────────────────────────────────┐
│  Step 1     │       │ Display Does Not Dim When The Headlights│
└─────────────┘       │ Or Running Lights Are Turned On        │
                      └──────────────────────────────────────┘

┌──────────────────────────────────────────────────────────┐
│ Inspect the ProDriver harness connection for the Panel Light│
│ On/Off wire. Verify the gray wire is securely connected to the│
│ power side of the interior lights dimmer switch.           │
└──────────────────────────────────────────────────────────┘
```

Are the checks favorable?

No → Correct any wrongly wired, missing, or faulty connection. Recheck display with the ignition and lights turned on.

Yes → Go to Step 2

Does the display dim when the headlights are turned on?

No → Go to Step 2

Yes → Troubleshooting is complete.

25984

For Step 2, see Figure 8‑13.

Figure 8‑12 Step 1, Display Does Not Dim

Step 2 — Display Does Not Dim When The Headlights Or Running Lights Are Turned On

Check for power on this circuit by disconnecting the 6 pin ProDriver harness connector.

1. Connect the black lead of a volt-ohm meter (VOM) to a known good battery ground.
2. Connect the red lead of the VOM to PIN #4 (gray wire) of the connector.
3. Turn on the ignition and headlight switch.

Is the VOM reading less or greater than 8 volts?

Greater than 8 volts at both positions → Go to Step 4
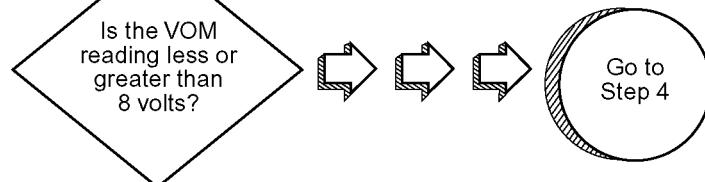
Less than 8 volts → Go to Step 3

40517

For Step 3, see Figure 8-14.

For Step 4, see Figure 8-15.

Figure 8-13 Step 2, Display Does Not Dim

Step 3 — Display Does Not Dim When The Headlights Or Running Lights Are Turned On

Check for an open in the circuit. With the ignition and light switches off, use the VOM to check the continuity between PIN #4 and its connection at the dimmer switch.

Are the circuit continuity checks favorable?

No → Repair the faulty circuit or replace the harness. Recheck the display with the ignition turned on.

Yes → Go to Step 4

Does the display dim when the headlights are turned on?

No → Go to Step 4

Yes → Troubleshooting is complete.

40518
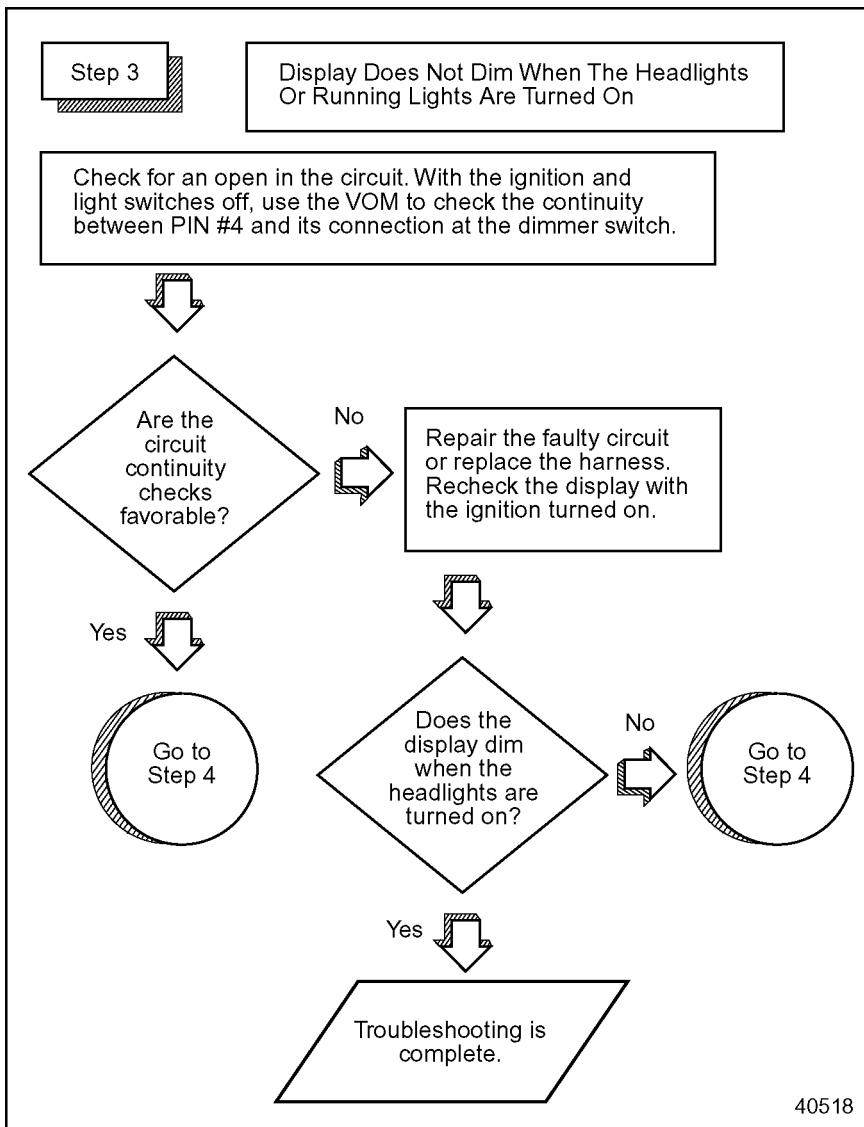
For Step 4, see Figure 8-15.

Figure 8-14 Step 3, Display Does Not Dim

Step 4 | Display Does Not Dim When The Headlights Or Running Lights Are Turned On

Inspect all terminals in both halves of the 6 pin connector for bent, corroded, or unseated pins or sockets.

Are the terminal checks favorable?

No → Repair terminals and reconnect the 6 pin connector, and recheck the display with ignition turned on.

Yes ↓

Reconnect the connector and turn on the ignition and headlight switches while observing the display.

Does the display dim when the headlights are turned on?

No → Replace the ProDriver display.

Yes ↓

Troubleshooting is complete.

40519

Figure 8-15 Step 4, Display Does Not Dim

GLOSSARY

Coasting	A condition whereby the driver allows the vehicle to move (usually downhill) with the transmission disengaged from the engine (could potentially exceed the road speed limit).
Configuration Card	This card is used to setup or configure all of the parameters in ProDriver DC except the vehicle ID or the odometer.
Data Card	A generic term for all of the cards used with ProDriver DC. The Data Card provides a convenient way to transport data to and from the vehicle and can hold up to 16 megabytes of data. The Data Card can be formatted to perform various functions
Detroit Diesel Diagnostic Link	PC software package supporting the setting up, maintenance and repair of engines using the DDEC IV ECM.
Detroit Diesel Data Summaries	PC program used to analyze and report trip data from ProDriver DC. Data Summaries can report trip data one vehicle at a time, summary reports for the whole fleet, and reports of driver trip activity.
DDECr	Detroit Diesel Electronic Controls
DDEC IV Data	A storage area in the DDEC IV ECM for engine and vehicle operating data.
DDEC Reprogramming System	Used to reprogram calibrations, modify customer calibration values, upgrade ECM software versions, update injector calibration codes, and program blank ECMs.
Diagnostic Data Link	The SAE J1708 recommended practice for design and construction of a two wire data bus circuit for communicating information between on-board vehicle devices.

Driver Card	This card is assigned to a specific driver. The card can hold the data from the assigned driver and from trips in ten different vehicles.
ECM	Electronic Control Module
Extracting Data	Method of retrieving information from Management Information Products.
Extraction Card	This card extracts vehicle data and driver ID from ProDriver DC. After 100 extractions the data must be loaded into a computer.
Fuel Economy Incentive (FEI)	Allows a fleet manager to set a target fuel economy while providing a driver incentive of increased vehicle speed to meet the target.
Hard Braking	A condition defined by rapid deceleration of the vehicle at a rate greater than the hard braking threshold.
Hard Braking Incident	A rapid deceleration of vehicle speed initiates a recording in one second increments for 75 seconds of eight critical items, 60 seconds before and 15 seconds after exceeding the hard braking limit.
Idle	Engine running but vehicle speed is less than 1.5 MPH
IRIS	The Infrared Information System (IRIS) provides for infrared two-way communication between a vehicle and a PC replacing direct cable hook-up.
J1708 Timeout	An alert record that the SAE J1708 data link connection has been interrupted during the latest trip. While there is a timeout, there is no data available. All other data is retained.
KM/L	Kilometers per Liter
L/100K	Liters per 100 Kilometers

Last Stop Record	Incident record stored 15 seconds after transition from drive to idle, independent of driver input. Engine critical items are recorded each second for two minutes from 105 seconds before to 15 seconds after the transition point.
Leg	A driver controlled portion of a trip in the ProDriver DC memory. The driver can reset a leg as many times as desired during a trip.
Load Factor	The average load on the engine during driving time.
MPG	Miles per U.S. Gallon
MPH/S	Miles per hour per second
MPIG	Miles per Imperial Gallon
Optimized Idler	Detroit Diesel DDEC feature to reduce idle time while maintaining engine temperature, battery voltage, or cab temperature. ProDriver DC records Optimized Idle data for reporting in Data Summaries.
PC	Personal Computer
Peak Speed	Maximum vehicle speed during the trip.
Power Interrupt	An alert record that the constant battery voltage connection to ProDriver DC has been disrupted during the trip. Data is not recorded while there is no power to ProDriver DC. All other data is retained.
ProDriverr DC	A dashboard-mounted graphic device which displays trip data and stores information internally or on data cards for extraction.
Reprogramming Card	This card saves the current ProDriver DC configuration and loads new software into ProDriver DC.
RP1202 Translator	Module to convert RS232 serial protocol to J1708 serial data bus protocol.
RPM	Engine revolutions per minute

VF	Vacuum fluorescent, ProDriver DC utilizes a VF display screen.
VSG (PTO)	Engine running above the Low Speed Governor on the Variable Speed Governor and the vehicle not moving. (previously PTO)
VSS	Vehicle Speed Sensor